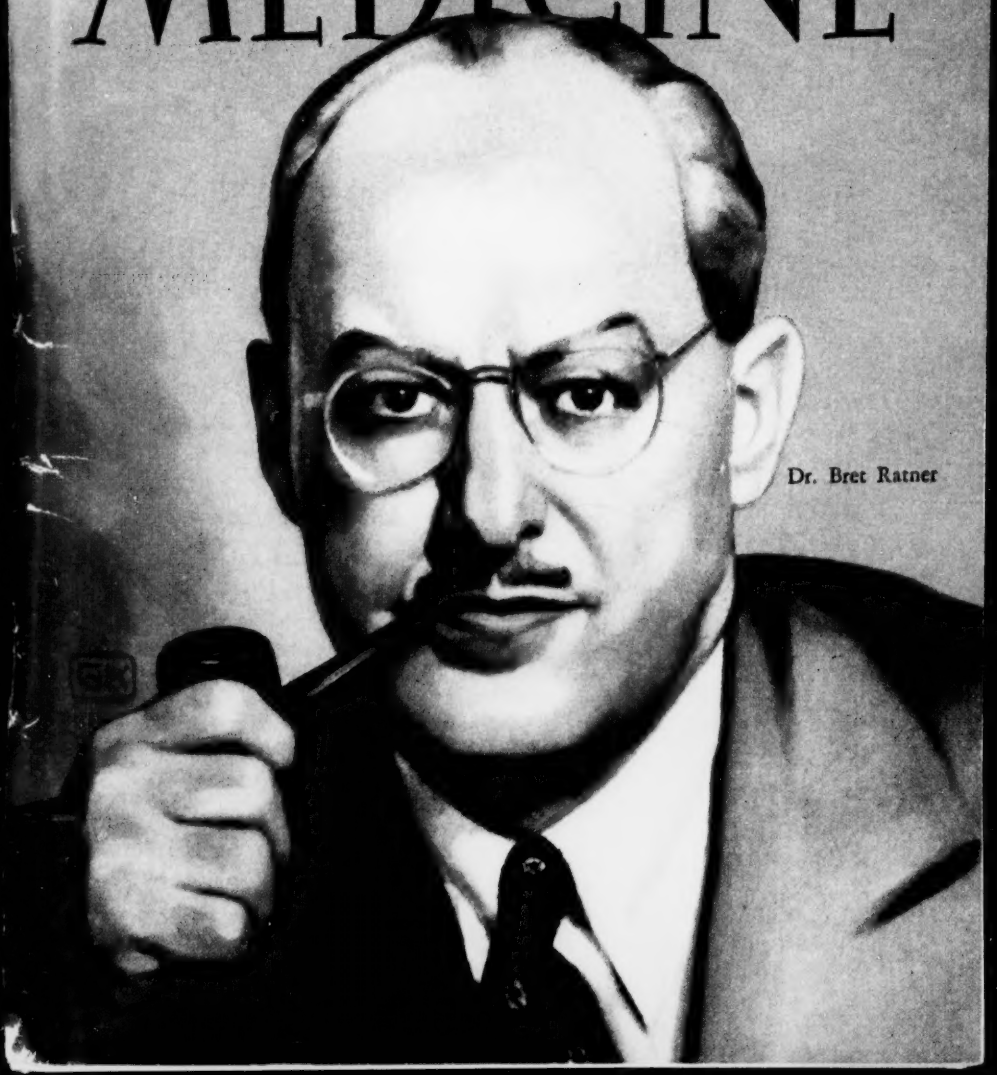
AUGUST 1, 1953

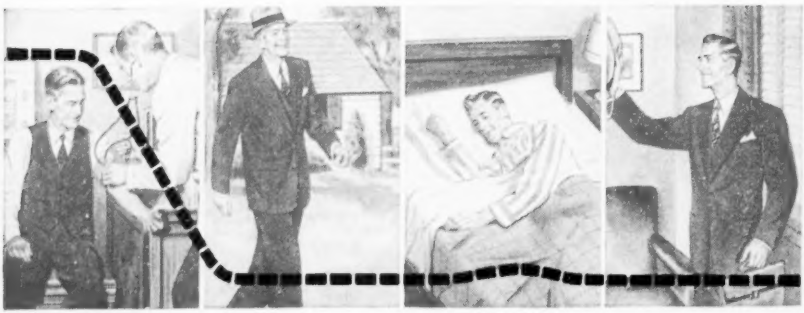
MODERN MEDICINE

The Journal of Diagnosis and Treatment



Dr. Bret Ratner

Isn't this the picture you want to prescribe for your hypertensive patients?



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Nitranitol is the universally prescribed drug in the management of essential hypertension.

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1. **When vasodilation alone is indicated**—*NITRANITOL.*
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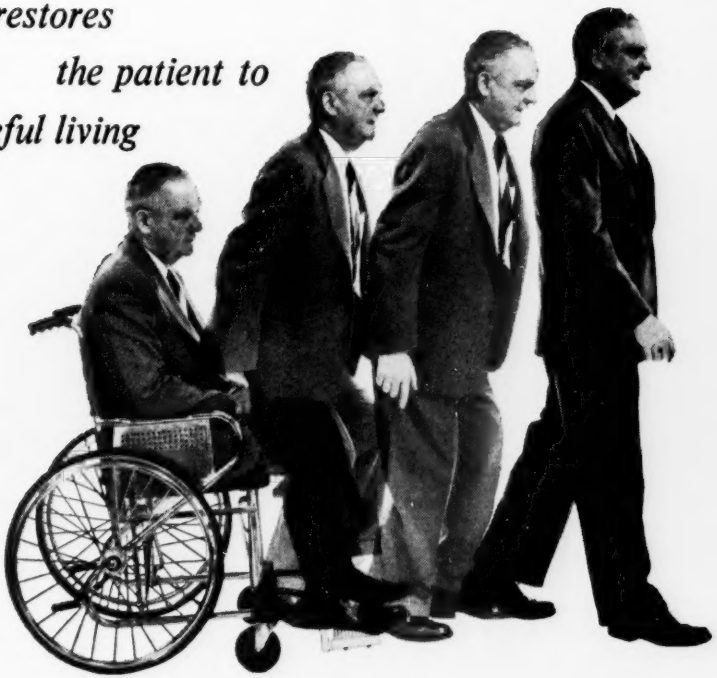
THERAPY OF INTERMITTENT CLAUDICATION

restores the patient to useful living



Patients with intermittent claudication associated with occlusive arterial disease are able to do much more work while under treatment with DEPROPANEX.[1,2]

Clinically Effective—"After a series of ten or more treatments, the claudication time was...prolonged to an average of more than three times that of the control tests," and walking distance increased by an average of 400 per cent.[2]

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References: 1. Bull. New York Acad. Med. 19:478, 1943. 2. Am. Heart J. 18:425, 1939.

DEPROPANEX (deproteinated pancreatic extract) relieves pain by relieving spasm. Its action is entirely physiologic. Additional indications for DEPROPANEX are: renal colic, ureteral spasm, biliary colic, postoperatively to restore abdominal muscle tone.

Dosage: In vascular disease and intermittent claudication: 2 to 3 cc. parenterally every other day. For spasmolysis in colic: 3 to 5 cc. as indicated for continued pain relief.

Supplied in 10 cc. rubber-capped vials.

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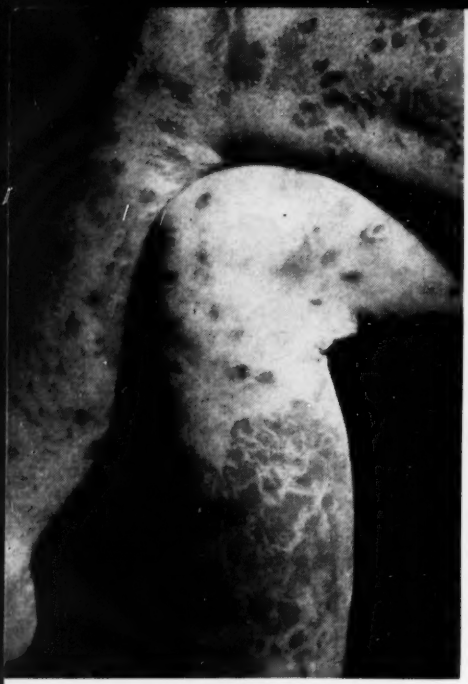
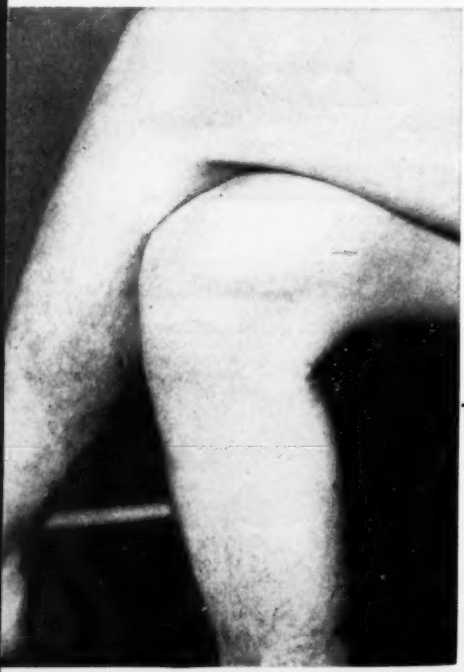


BEFORE USING RIASOL



AFTER USING RIASOL

for mental torture of PSORIASIS

RIASOL

Nobody ever died of psoriasis. But psychiatrists agree that the mental torture and humiliation may cause a serious neurosis. This is especially true of young women who lose out in marriage and young men rejected for employment.

Every case of psoriasis deserves vigorous treatment with **RIASOL.** Statistical analysis of a clinical **RIASOL** test, conducted by a group of eminent New York physicians, showed improvement in 76% of cases, as compared with only 16½% remissions in cases treated by other methods.

When the ugly skin patches of psoriasis are cleared up by faithful treatment with **RIASOL,** a happy outlook on life is restored to the unfortunate sufferer from this disfiguring disease.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

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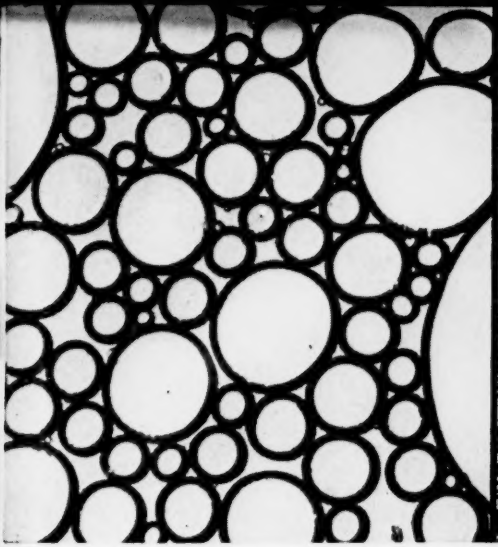
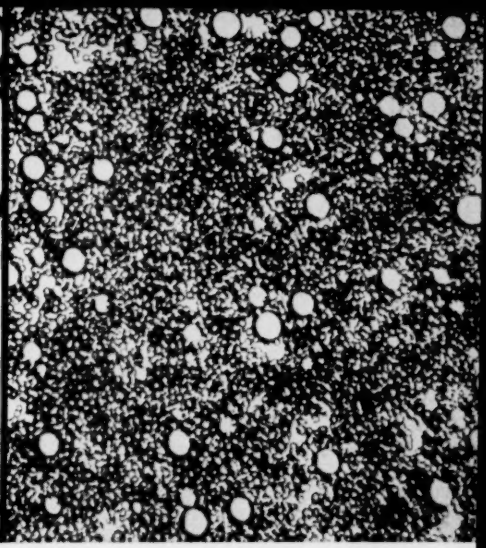
RIASOL FOR PSORIASIS



1 *Oil dispersion (x133). Large irregular globules fail to mix readily with fecal mass. Phenolphthalein is not evenly distributed to stimulate peristalsis. Action may be sporadic and evacuation incomplete.*



2 *The fine oil emulsion (x133) of Agoral. The small, uniform globules and the phenolphthalein mix readily with the bowel content, producing peristalsis by more uniform lubrication and stimulation.*

Which Laxative is Better—

COARSE DISPERSION OR FINE EMULSION?

Coarse dispersions are unstable, and erratic in their effects. Any physician can recognize the superiority of the fine Agoral emulsion (*at right, above*) compared with an ordinary oil-in-water dispersion (*left*).

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Agreeable to Sensitive Stomach

The fine emulsion of Agoral is palatable and will not distress a sensitive stomach. It assures more uniform dosage and distribution ot the active ingredients, more uniform clinical results.

Its thorough admixture with the bowel content gives effective, uniform lubrication of the fecal mass as well as the canal. There is no loose oil to cause anal leakage.

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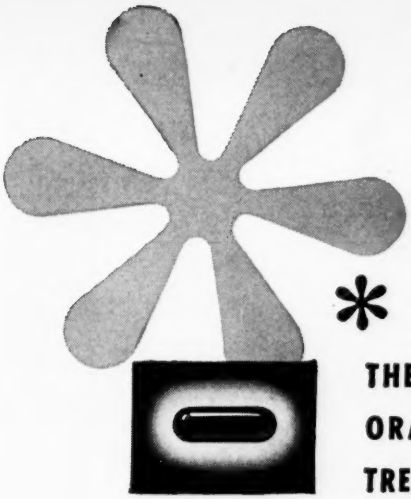
MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT



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†Carotid Sinus Reflex

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Research to Serve Your Practice

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for

August 1

1953

Modern Medicine

Vol. 21, No. 15

THE MAN ON THE COVER is Dr. Bret Ratner of New York City, Professor of Clinical Pediatrics and Associate Professor of Immunology at New York Medical College. Attending pediatrician at the Flower and Fifth Avenue Hospitals, Dr. Ratner is director of pediatrics and visiting pediatrician at Sea View Hospital for Tuberculosis. He is a fellow of the American Academy for the Advancement of Science, American Academy of Pediatrics, and New York Academy of Medicine and also chairman of the pediatric committee of the American College of Allergy. Dr. Ratner is author of *Allergy, Anaphylaxis and Immunotherapy* and associate editor of the *Annals of Allergy* and *Bulletin of the Sea View Hospital*. A review of his article, "Allergenicity of Modified and Processed Foodstuffs," appears on page 70.

While You Are Treating the Infection

—here is a potent, exceptionally tempting Vitamin B Complex Syrup with a therapeutic dosage of thiamine to build up the appetite—

—and it's in a delicious cola-flavored base which makes a "soda-pop" type of drink that young or old will take—whether they're hungry or not.

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"... *the nutrition of the mother largely determines the good health and general resistance of the child* ..."[1]

Since the maternal tissues serve as a reservoir from which the fetus must draw all nutritive substances, even borderline deficiencies in Vitamins or Minerals may impair the growth, development and health of the child for the rest of his life. OBRON supplies the OB patient with Vitamins, Minerals and Trace Elements in the amounts necessary to protect her health and that of her child.

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Vitamin A	5,000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine Hydrochloride	2 mg.
Riboflavin	2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	37.5 mg.
Niacinamide	20.0 mg.
Calcium Pantothenate	3.0 mg.
Cobalt	0.033 mg.
Copper	0.33 mg.
Iodine	0.05 mg.
Manganese	0.33 mg.
Magnesium	1.0 mg.
Molybdenum	0.07 mg.
Potassium	1.7 mg.
Zinc	0.4 mg.

*Equivalent to 15 gr. Dicalcium Phosphate Dihydrate.

1. Viltner, R. W. and Thompson, C: Nutrition and the Control of Chronic Disease, Public Health Reports, Vol. 66, May 18, 1951.

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Physiologic Floraquin® Therapy in Leukorrhea

"Vaginal leukorrhea" due to *Trichomonas vaginalis* is described[1] as "one of our truly nuisance diseases," being present in *one out of five* women, yet many a woman still hesitates to discuss leukorrheal discharge with her physician.

Many a woman also is discouraged because the discharge reappears[2] time after time, even after an apparent cure of weeks or months.

Treatment[3] has a twofold purpose: To destroy the trichomonads and to keep the vagina dry. Floraquin, with its acid and sugar content, maintains a normal vaginal pH of 3.8 to 4.4 and encourages the growth of the normal Döderlein bacilli and secretions.

Active treatment with Floraquin should be continued[4] through at least two or three menstrual periods to assure successful cure.

It is available as powder and vaginal tablets.

1. Savage, M. B., in discussion of Davis, C. H., and Grand, C. G.: Trichomonas Vaginalis Donné: An Evaluation of Experimental and Clinical Data, Am. J. Obst. & Gynec. *64*:544 (Sept.) 1952.

2. Upton, J. R.: Symposium: Certain Aspects of Office Treatment in Obstetrics and Gynecology: Trichomonas Vaginalis Vaginitis, West. J. Surg. *60*:222 (May) 1952.

3. Kleegman, S. J.: Treatment of Trichomonas Vaginitis, GP *6*:49 (Aug.) 1952.

4. Kanter, A. E.: The Recognition and Treatment of Vaginal Lesions, Postgrad. Med. *12*:457 (Nov.) 1952.

SEARLE *Research in the Service of Medicine*

LETTER FROM THE EDITORS

Dear Reader:

A friend of ours has a most unusual trait. Every time we meet him he has something complimentary to say. It may be about our tie, our sun tan, or our wife's cooking. He never misses. He is just as thoughtful with the other men he meets. He is not a Pollyanna type, so we got to wondering about his persistence in spreading good cheer. Finally we asked him bluntly, "How come?" He grinned sheepishly.

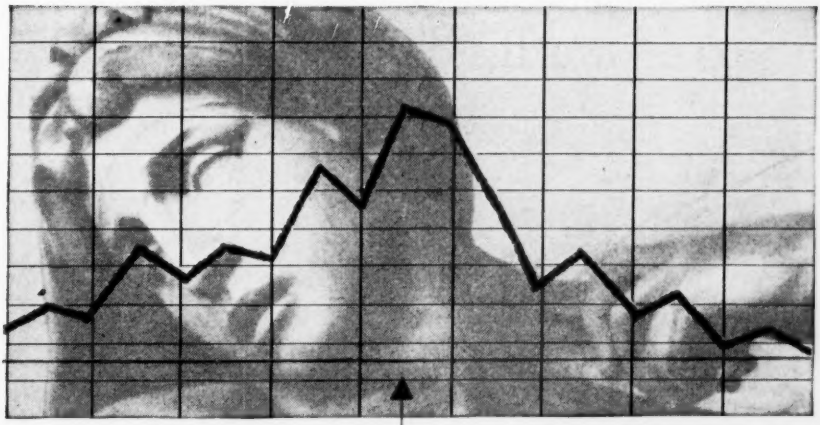
"I don't see my friends as often as I would like," he said. "When I do it is usually about business and we are both in a hurry. No time for exchange of pleasantries. Then I pick up a newspaper and read that my friend has died. There were so many nice things I meant to say to him that I never did. I decided I would make it a point to say a good word every time I had a chance. It pleases my friend and I, too, am pleased. The emphasis now is on the good qualities."

You have a friend who has been doing a tremendous job. Through his untiring, patient efforts he has rolled back the curtain and added some bit of vital data to the common store of medical knowledge. Perhaps his example has inspired others to practice better medicine. He deserves a pat on the back.

Turn to page 150 in this issue. Read about the Modern Medicine Award for Distinguished Achievement. Then sit down and fill out the coupon or write us a letter. Do it today while there is still time for the gesture to please both you and your friend.

The Editors

when resistance develops in penicillin therapy . . .



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A new antibiotic agent for selective use in the practice of medicine today.

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Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Reader's Choice

TO THE EDITORS: I noticed an interesting misprint in the Washington Letter (*Modern Medicine*, May 15, 1953, p. 57). The word "hand-picked" has been used inadvertently for "henpecked." I know such slips plague the life of the most industrious editor.

WILLIAM B. BEAN, M.D.
Iowa City

To go along with Dr. Bean, the Miss Print reads, "Secretary Hobby and her various hand-picked subordinates . . ."—Ed.

Wait Between Two-Step Tests

TO THE EDITORS: Many thanks for your editorial on the Master two-step test (*Modern Medicine*, May 15, 1953, p. 77).

In the third paragraph the following statement is made: "If no change is noted with the first period of exercise, a second test, made right away, has a 30% chance of showing the abnormality, granting that the person has a narrowed coronary artery."

We have always insisted on a waiting period of at least an hour between tests. In some of our earlier papers, more than a score of years ago, I believe we discussed this matter.

Sometimes if the second test is made too soon it helps the patient who has coronary disease; it gives him a "second wind" and a normal test results when it should really be abnormal.

Often the situation is completely reversed; if the exercise is repeated too soon, the second test may be abnormal when it would otherwise be normal. Thus we prefer to wait an hour or have the patient come in the afternoon or the next day for the double two-step exercise electrocardiogram.

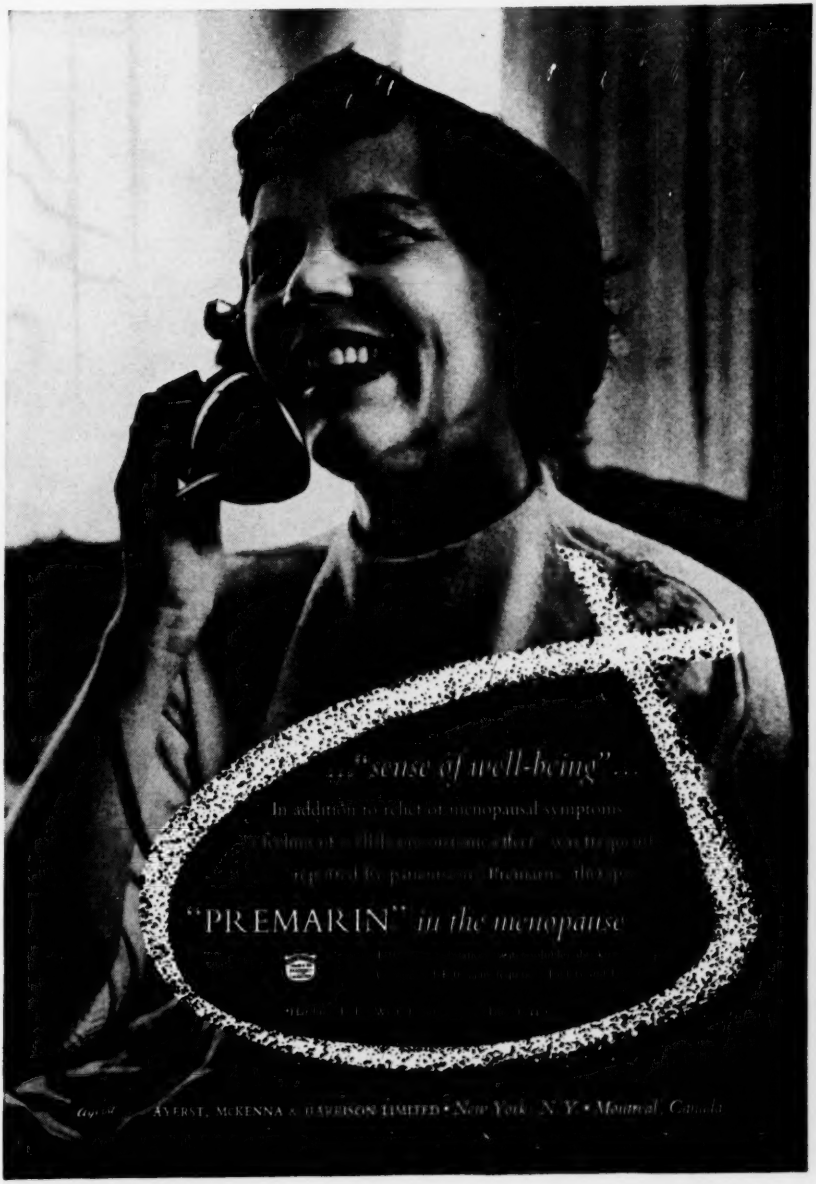
ARTHUR M. MASTER, M.D.
New York City

Mercuhydrin Technic

TO THE EDITORS: I have had many requests for the exact technic of giving Mercuhydrin for migraine. I usually administer 0.5 cc. every two hours until relief results. Most patients are relieved by 0.5 to 1 cc. of the diuretic. A few severe cases have required 1.5 cc.

If it is inconvenient for the patient to receive additional injec-

(Continued on page 24)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a really effective treatment

for Seborrheic Dermatitis of the scalp

...keeps scalp free of scales for one to four weeks

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Patients find SELSUN simple and pleasant to use . . . it is applied while washing the hair, then rinsed out. As a result, the scalp is left clean and odorless, and there is no oily residue to come off on clothing or linens. Toxicity studies[1,2] show there are no harmful effects when used externally as recommended.

Designed strictly for the medical profession, SELSUN is available *only on a physician's prescription.* It is supplied by pharmacies in 4-fluidounce bottles with tear-off labels. Abbott

References:

1. Slinger, W.N., and Hubbard, D.M. (1951), Arch. Dermat. & Syph., 64:41, July.
2. Slepyan, A.H. (1952), Ibid., 65:228, February.
3. Ruch, D. M. (1951), Communication to Abbott Laboratories.

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SULFIDE *Suspension*

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A

1 *Before treatment with Selsun*

CLINICAL PHOTOGRAPHS showing effect of **SELSUN** on pityriasis sicca

2 *After two weeks of treatment*

Patient applied SELSUN twice a week for two weeks, once a week for next four weeks

3 *After six weeks of treatment*

tions, larger initial doses are indicated. For those who can tolerate dihydroergotamine (DHE45), an excellent response is obtained by combining this with Mercuhydrin. Smaller amounts of DHE45 and larger amounts of Mercuhydrin are given to those who are slightly nauseated by DHE45.

During periods of stress and during the early prodromal phase, vigorous salt restriction and the use of other diuretics are indicated, but an effective diuresis with Mercuhydrin has been necessary for most patients who fail to respond to vasoconstrictors.

Until further investigations do confirm my studies, Mercuhydrin should be used with caution in patients with migraine who respond to other means. My research has been based on the observations of Campbell, Hay, and Tonks reported in the *British Medical Journal* (4745:1424, 1951).

R. S. SRIGLEY, M.D.
Hollis, Okla.

Footnote to a Footnote

TO THE EDITORS: In the footnote to the article, "The Gynographic Survey," by Dr. Abner I. Weisman (*Modern Medicine*, May 15, 1953, p.110), the last line states that the technic of gynecography devised by Stein is not an office procedure. My associate and I should like to dispute this point.

We have performed this procedure in almost 500 patients in our offices over a period of about eleven years. Before that, while working with Drs. Stein and Arens at the Michael Reese Hospital in Chicago, I saw the examination per-

...“truly extraordinary” results

in intractable bronchial asthma

Cortone®

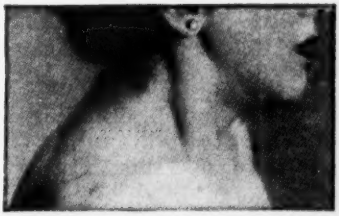
ACETATE

(CORTISONE ACETATE, MERCK)

In a review article on hormonal therapy,[1] complete relief of symptoms was reported in 62 per cent of 116 asthma patients. Another 24 per cent were made “quite comfortable.” Duration of relief varied widely, with remissions occasionally lasting as long as several months. The author calls these results “truly extraordinary.”

[1]Evans, R. R., and Rackemann, F. M.: *A.M.A. Arch. Int. Med.* **90**:96-127, July 1952.

All* CORTONE *Tablets carry this trade-mark:



Before treatment. Observe typical facies and tense sternocleidomastoid.

After therapy with CORTONE. Note relaxation of accessory muscles of respiration.

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RAHWAY, NEW JERSEY

formed many times, usually on outpatients.

While the procedure is accompanied by some discomfort, it is usually well-controlled after the administration of Empirin with ½ gr. of codeine or with the subcutaneous administration of 50 mg. of Demerol hydrochloride.

MORIS HORWITZ, M.D.
Beverly Hills, Calif.

Dr. Weisman's reply to Dr. Horwitz' objection is printed below—Ed.

► TO THE EDITORS: The technic of radiography by creation of an artificial pneumoperitoneum followed by iodized oil instillation is not generally considered an office procedure. Dr. I. F. Stein of Chicago has been performing his tests at the Michael Reese Hospital since 1926. Dr. W. W. Williams, who describes the technic in his new volume, *Sterility*, also performs his gynecographic studies in the Springfield Hospital, Springfield, Mass.

The advantage of performing this study in a hospital is clear. Some time is required for the 1,000 cc. of carbon dioxide to be absorbed from the peritoneal cavity. Stein, in the three-volume text, *Gynecology and Obstetrics*, states: "Gynecography may be performed on ambulatory patients. By maintaining the recumbent posture for a few hours after the examination, discomfort caused by the abdominal inflation is reduced to a minimum." Despite this statement, Stein performs the test in the hospital.

Few physicians have office facilities that allow patients to remain in the Trendelenburg position for "a few hours," and the office nurse can seldom be spared from her usu-

for real relaxation

in the tense, anxious, restless patient

each tablet of **SECONESIN** contains:

mephenesin . . 400 mg.
secobarbital . . 30 mg.

average dose: 1 tab. t.i.d. p.c.; 1 or 2 tabs. at night if needed

SECONESIN combines the safe modern relaxant, mephenesin, with mild, sedative, secobarbital, to give a more complete feeling of gentle sedation and pleasant relaxation than is possible when either drug is used alone.

with **SECONESIN**, *patients relax but stay alert mentally, experience a feeling of well-being,* a relaxation of mental and nervous tension by day which helps them relax into refreshing natural sleep at night.

SECONESIN is safer...it acts promptly...is dissipated promptly...causes no "hangover" or doped feeling.

samples to physicians on request

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Therapeutic Preparations for the Medical Profession

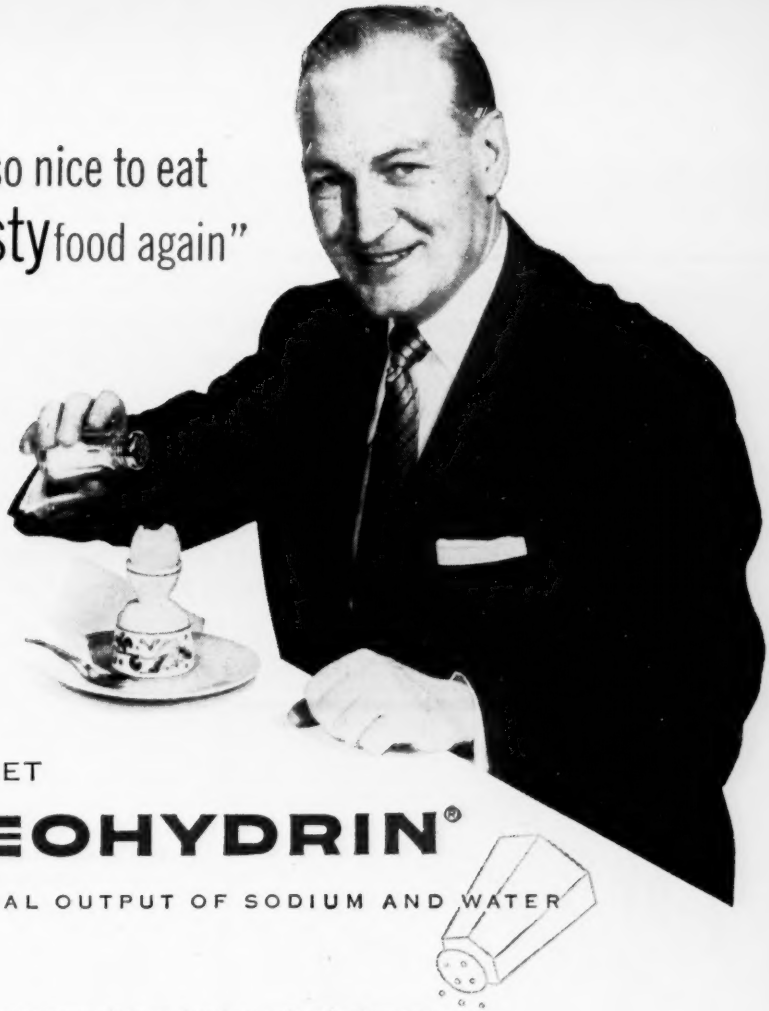
al routine. Few physicians would dare to perform the intraabdominal technic of inducing an artificial pneumoperitoneum in their offices. The transabdominal approach is certainly not an office procedure when the fallopian tubes are closed.

I am glad to learn that Dr. Horwitz and his associate are performing Dr. Stein's test in their offices. However, the fact remains that a number of hours is required for the peritoneal gas to be absorbed from the reclining position. Stein, the originator of the test, and Williams both continue to perform the tests in hospitals.

I suppose many minor tests and examinations could be done in the office rather than in the hospital, but the fact that the majority of men perform certain tests in hospitals indicates their preference.

ABNER I. WEISMAN, M.D.
New York City

"I know it's a very minor operation, Doctor, but please be very careful with him—I already have two girls."



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In iron deficiency anemia where iron has been the standard treatment, Roncovite produces a faster response, greatly superior erythropoiesis and up to fourfold increases in the utilization of iron.[1, 2]

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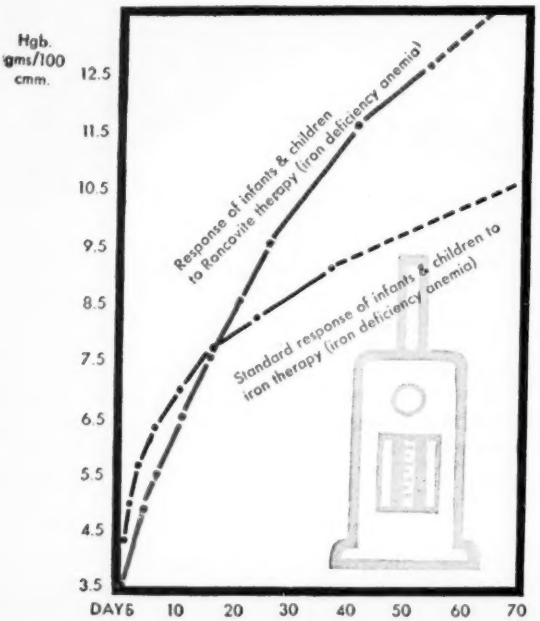
The above clinical findings mean that Roncovite offers a significant advance in the treatment of all types of "secondary" anemia.



Comparison of the response of hypochromic anemic infants and children to Roncovite and to iron; with Roncovite, iron utilization was so efficient that 58% of the ingested iron was converted to hemoglobin[2]—as compared to the usual average of 15% utilization from ferrous sulfate.—

Standard response chart Josephs, H.: J. Pediat. 49:246 (1931).

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Tablets—each enteric coated, red tablet contains:

Cobalt chloride (Cobalt as Co....3.7 mg.).....15 mg.
Ferrous sulfate, exsiccated (Iron as Fe....60 mg.).....0.2 Gm.
Average adult dosage—1 tablet after each meal and at bedtime.

Supplied in bottles of 100 tablets.

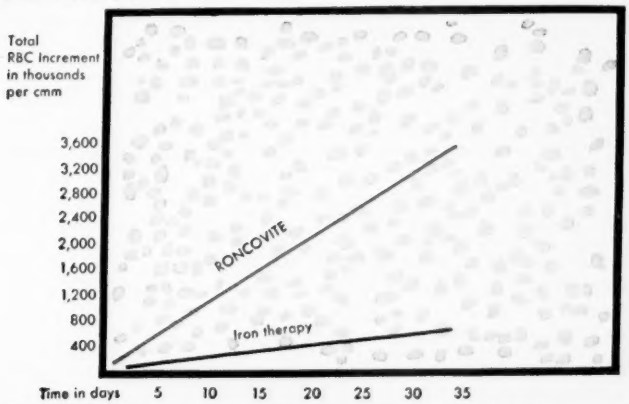
Drops—each 0.6 cc. contains:

Cobalt chloride (Cobalt...9.9 mg.).....40 mg.
Ferrous sulfate (Iron...15.1 mg.).....75 mg.
Average dose—0.6 cc. (10 minims) diluted with water, milk, fruit or vegetable juice once daily to infants and children.

Supplied in bottles of 15 cc. with calibrated dropper.

1. Wolff, H.: Med. Monatsschr. 5:239 (1951); (2) Rohn, R.J., and Bond, W.H.: to be published; (3) Berk, W., et al: New England J.M. 240:754 (May) 1949: (4) Robinson, J.C., et al: New England J.M. 240:749 (May) 1949; (5) Weissbecker, W., and Maurer, R.: Klin. Woch. 24:855 (1947); (6) Wolff, H., and Barthel S.: Munch. M. Wschr. 93:467 (1951); (7) Gardner, F.H.: J. Lab. & Clin. M. 41:56 (Jan.) 1953.

*The pioneer cobalt product.



Comparison of the average erythrocyte response of iron-deficiency anemic children to Roncovite[2] and to iron therapy.—Computation—Method of Schiodt: Am. J. Med. Sci. 193:313 (1937).

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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: What therapy do you suggest for a 6-month-old infant with an undescended testicle?

M.D., New York

ANSWER: *By Consultant in Urology.* I recommend waiting until the boy reaches puberty before administering treatment, since spontaneous descent may have occurred by that time. If the testicle does not descend, the child should then have a course of an anterior pituitary-like substance, such as Antuitrin "S" given intramuscularly in 500 rat units three times weekly for six weeks unless undue acceleration of sexual development results. If the testicle then shows no tendency to descend, I advise orchiopexy.

QUESTION: What is the Harris drip and is it of value in the treatment of postoperative gas pains?

M.D., Kentucky

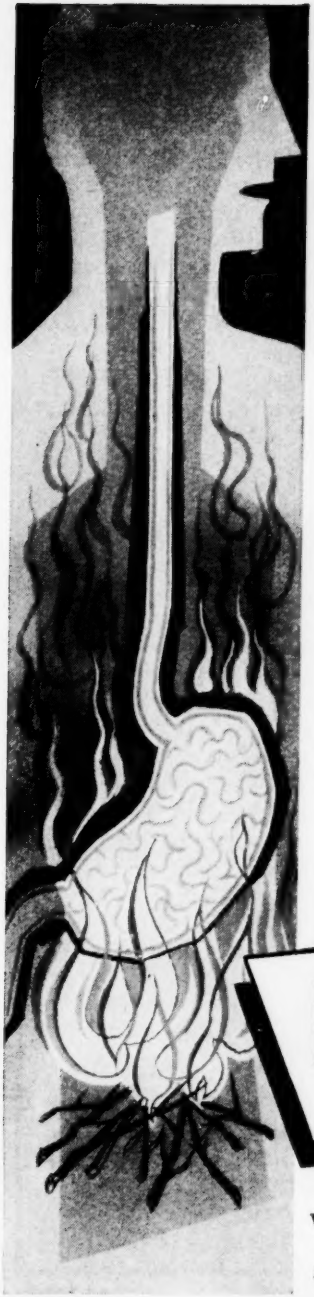
ANSWER: *By Consultant in Surgery.* The Harris drip is a form of proctoclysis by which different solutions, such as water, sodium chloride, sodium bicarbonate, or glucose, are administered by rectum for absorption by the rectal and colonic mucous membrane. The apparatus is placed so that the reservoir is about 4 or 5 in. above the level of the anus, which allows a tidal flow of the solution between the rectum and the reservoir.

This method has no merit in the treatment of postoperative gas pains except, in some instances, from action as an enema. Incidences have occurred in which gas has been forced up into the colon by this method and produced gaseous distention of the bowel with increased distress.

QUESTION: I have been giving a pernicious anemia patient large doses of vitamin B_{12} intramuscularly. However, recently I read that 25 μg. is all the body can utilize and that more than this amount is wasted. What is your opinion?

M.D., Michigan

ANSWER: *By Consultant in Pharmacology.* In cases of relapse with pernicious anemia, 15 units of vitamin B_{12} daily are given intramuscularly for two weeks, 15 units twice weekly for three months, then 15 units weekly for three months, and finally 60 units every month. Dosages much in excess of this, I believe, are wasted. This statement does not apply to oral administration of vitamin B_{12}, which requires large doses because of capriciousness of absorption.



when the patient complains of a gastric bonfire

. . . usually, an antacid is indicated — but remember that most antacids stop protein digestion. To arrest acid action, and maintain protein digestion,* prescribe AL-CAROID, the antacid digestant. Here is a balanced combination of four proved antacids, plus the potent proteolytic enzyme, "Caroid." AL-CAROID effectively counters gastric hyperacidity AND maintains the digestion and assimilation of proteins.

*"Caroid" increases the digestion and assimilation of proteins up to 15.5% above the normal. Tainter, M. L., et al: Papain, Ann. New York Acad. Sc. 54:143-296 (May) 1951, p. 295.

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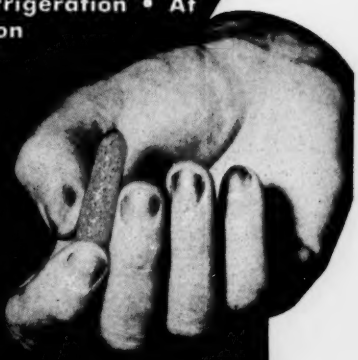

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Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: A married woman sued for medical and hospital expense as part of her damages in a personal injury suit. Did the right to collect depend upon her having incurred the bills on her own credit, as distinguished from that of the husband?

COURT'S ANSWER: Yes.

So decided the New York Supreme Court, Appellate Division, Third Department (120 N.Y. Supp. 2d 449).

PROBLEM: A young doctor was injured when his car collided with a train, resulting in permanent partial paralysis of his left arm and hand. He was unable to practice surgery, orthopedics, or obstetrics, but remained able to practice medicine. He testified that he had been compelled to refer many surgical, orthopedic, and obstetric cases to other doctors. But he made $6,000 from medical practice the first year after his hospitalization ceased. Was an award of $75,000 damages so excessive as to require a new trial?

COURT'S ANSWER: Yes.

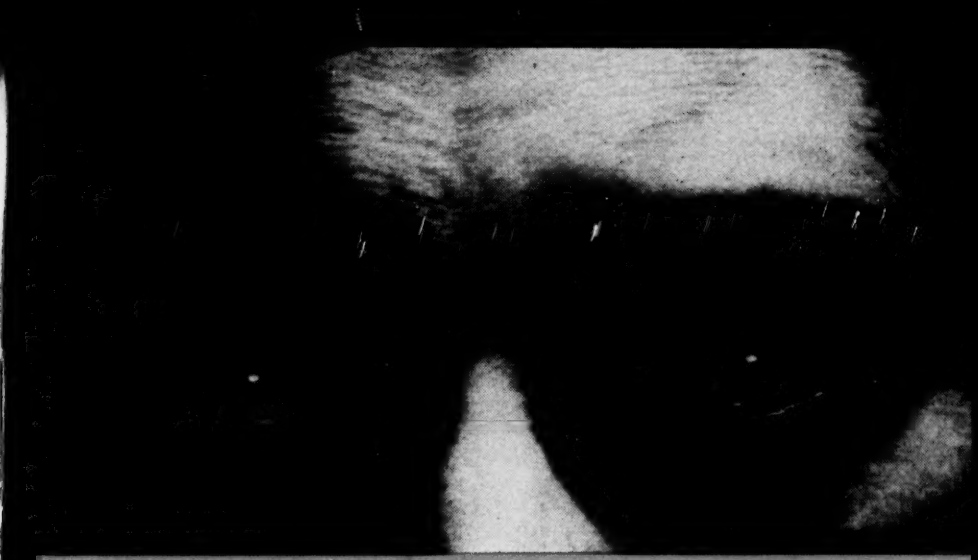
The Ohio Court of Appeals, Lucas County, thought that the evidence offered by the doctor in his suit against the railroad company merely permitted conjecture as to the extent to which his earning capacity had been diminished. Evidence was necessary to justify a conclusion that he would have enjoyed a greater income from practicing in the fields for which the accident disqualified him than he would from the practice of medicine as a general practitioner or as a specialist, for which he remained qualified.

The court said that damages need not be proved with certainty or mathematical exactness, but that an award could not be based upon conjecture or possibilities as distinguished from probabilities (109 N.E. 2d 511).

PROBLEM: A doctor directed that a hospital nurse constantly attend an obstetric patient under the influence of a sedative. The doctor's instructions were disregarded and, while he was absent, the patient fell from the bed and was injured. The hospital's liability insurer neglected to settle the patient's claim for a reasonable sum and she recovered judgment for more than the amount of the policy. Could the insurer avoid liability to reimburse the hospital against the full amount of the judgment on the ground that it expected to be able to induce the doctor's insurer to contribute in the settlement?

COURT'S ANSWER: No.

The U. S. District Court, Middle District of Tennessee, concluded that, because there was no plausible ground for asserting fault on the doctor's part, the hospital's insurer had unreasonably refused to settle on a fair basis (109 Fed. Supp. 565).



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Bottles of 50 and 500 scored tablets.

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100 South Broad Street Philadelphia 10, Pa.

PROBLEM: In a damage suit by a passenger against the owners of an excursion boat for delay in securing medical treatment after the passenger had fallen down the ship's stairway, it appeared that the master honestly and reasonably believed that the passenger was not seriously injured, and so proceeded to the next port, one and one-half hours away, instead of turning back to the last port, forty-five minutes away. Did the passenger have a valid claim?

COURT'S ANSWER: No.

In so deciding, the U. S. District Court, District of Rhode Island, observed:

Except as required by statute, a ship need not carry a doctor for the treatment of injured passengers. Whether the ship should deviate from its course so that medical aid can be procured is a matter to be determined by exercise of reasonable judgment by the master as to the seriousness of the injury, the care that can be given on board, the proximity of the next port, the probable consequences of delay, the probability of a competent physician being found at either port, and so on.

The court decided that actionable negligence on the master's part was not shown through failure to place the passenger in a bunk instead of on a canvas chair and that he had received reasonable attention, although it later appeared that there was a comminuted fracture of the upper end of the femur.

(Continued on page 44)

In Idiopathic Pruritus Ani

Histar presents a combination of pyrilamine maleate (Merck), 2%, and an extract of selected crude coal tar, derived by an exclusive process of fractionation (Tarbonis brand), 5%, in an emulsified hydrophilic base, nongreasy and clean in application. The contained pyrilamine maleate is recognized as of outstanding antihistaminic value. The special tar extract in Histar is decongestant, anti-inflammatory, and potently antipruritic. These two therapeutic agents appear to potentiate and complement each other's actions in a manner which may well be termed physiologic synergism.

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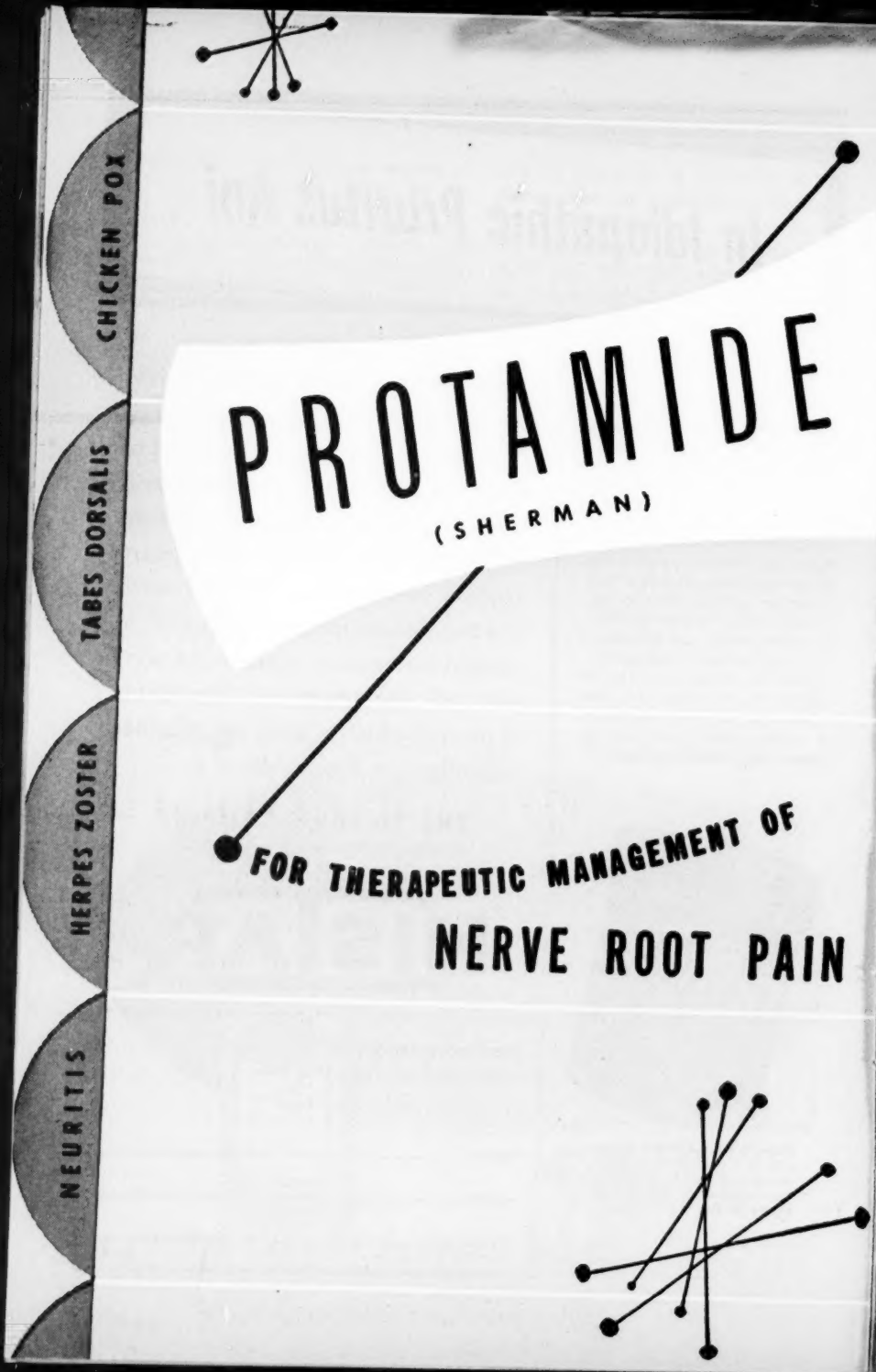
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NERVE ROOT PAIN

In the Treatment of

NEURITIS

(Sciatic—Intercostal—Facial)

"...patients responded with complete relief of pain"*

WITH PROTAMIDE

Richard T. Smith, M.D., in a currently published paper, "Treatment of Neuritis with Protamide" reports: 84 patients of 104 had complete relief of pain in sciatic, intercostal and facial neuritis with one daily injection of Protamide for five or ten days. "... 49 were discharged as cured after five days of therapy." No intolerance to Protamide, systemic or local was found in the 125 patients (104 plus 21 controls). Two qualifications for practical application of this study are:

1. *The elimination of cases due to mechanical pressure.*
2. *Early treatment after onset.*

Your prescription blank marked NEURITIS REPRINT will bring literature.

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The owners of the boat were not liable on a theory of incompetence on the part of the doctor called aboard at the next port, he being the only one available and apparently competent (111 Fed. Supp. 8).

PROBLEM: In a suit on a life policy involving a dispute as to whether insured had misrepresented when he stated he had not had any stomach or intestinal ailment and had not visited a clinic or physician within five years, a radiology specialist of a clinic testified that a record examination of insured on a certain date was correctly made. The record librarian testified that records were dictated by the examining physician as soon as possible. Were the records admissible in evidence as the equivalent of testimony of the doctors to the facts stated in them?

COURT'S ANSWER: Yes.

So decided the Alabama Court of Appeals (64 So. 2d 122).

PROBLEM: As to the validity of a life insurance policy issued on a false statement that insured had not had stomach or intestinal ailment, two doctors testified that they had diagnosed duodenal ulcer. Was that testimony overruled by testimony of other medical experts that symptoms of gastritis and duodenal ulcer are similar and sometimes confused?

COURT'S ANSWER: No.

The Alabama Court of Appeals said that existence of duodenal ulcer was definitely proved by roentgen and fluoroscopic signs of a niche or crater.

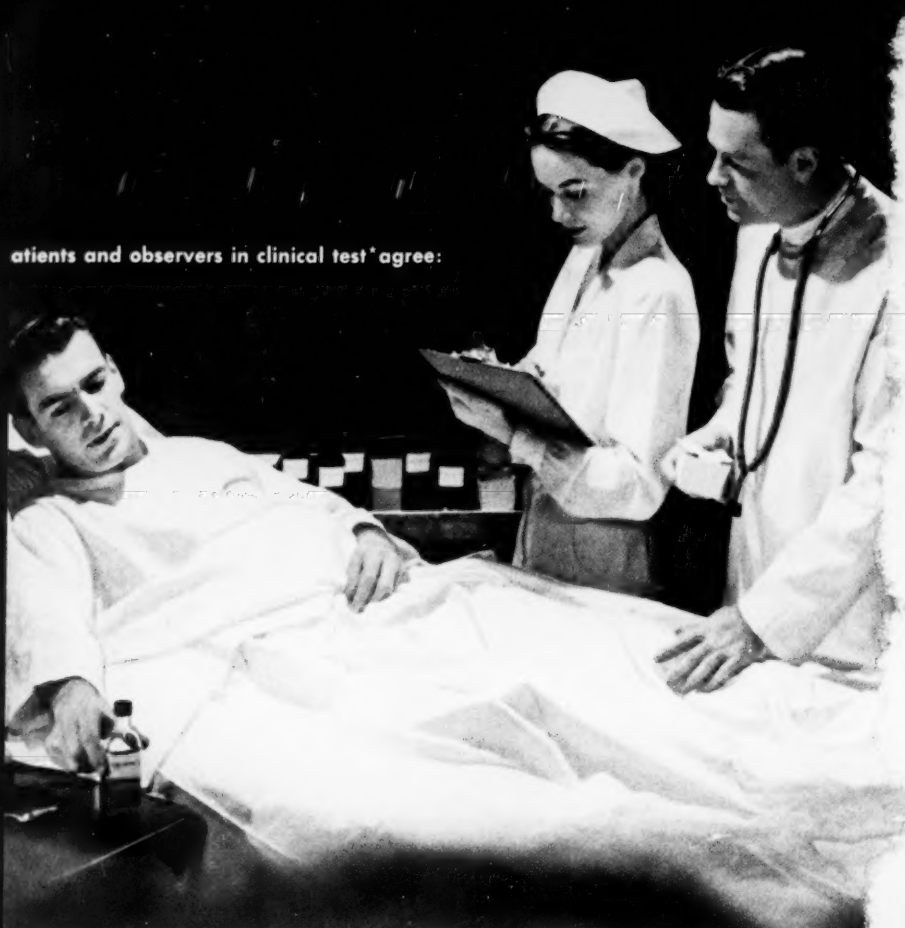
The court decided that insured's concealment of a diagnosis of duodenal ulcer materially affected the risk undertaken by insured, as shown by the practice of some life insurers to refuse to insure if applicant had had duodenal ulcer within two years and nine months, while other companies would issue a policy on a rated basis if special examinations were made and showed freedom from symptoms for a long time (64 So. 2d 122).

PROBLEM: Under the Iowa statutes, permitting disinterment and autopsy to determine, for insurance recovery purposes, whether a death was due to disease or accident, a district judge permitted an autopsy and specified organs or parts thereof removed, "except only such portions thereof as may be necessary to be subjected to microscopic examination, shall be restored to their normal place in the body prior to reburial." The exception was made because it appeared that the pathologist intended to shave the brain and keep some slivers for examination. Was the permission to retain portions of organs too broadly stated?

COURT'S ANSWER: Yes.

The Iowa Supreme Court ordered that the clause be modified to require replacement of all removed portions, "except only shavings or such slivers of tissue as may be necessary to subject to microscopic examination."

The court intimated that the statutes were so worded as to prevent retention of removed organs and concluded, on the basis of medical testimony, that "an autopsy has a recognized meaning among pathologists and it includes the removal and replacement of organs and at least partial dissection thereof if reasonably necessary to ascertain the cause of death" (58 N. W. 2d 24).



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* Cass, L. J. and Frederik, W. S.: Am. Pract. and Digest of Treat., 2:844, 1951. Report of blind test on 52 hospitalized patients.

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Washington LETTER

Doctor Draft Inequities Rectified in New Law

IT is unfortunate that the only way to experiment with legislation is to pass it, then see what happens. For three years the physicians and dentists of the country have been subject to the doctor draft law, and quite a bit has happened that no one really wanted to happen.

The bill was drawn up, discussed at hearings, debated in House and Senate, and made law within two months after the start of the Korean war. That is not a record for emergency legislation, but it is moving pretty fast on a law that at best is discriminatory and at worst definitely unfair to certain groups of physicians and dentists. Now, in the light of experience, a new law has been enacted, effective July 1. Had this been in force for the last three years, the obligation for service would have been spread more evenly and carefully.

For example, a man of priority II—government-educated or draft-deferred during World War II—was, under the original law, subject to an additional tour of duty if he had not served for twenty-one months *after* becoming a physician or dentist. The time he might have served before he entered medical school was just not considered. Hundreds and perhaps thousands of doctors had served eighteen, nineteen, and twenty months, and were, therefore, liable for two more years. A few had records falling short only one to five days.

Under the new law, this situation is effectively cleared up, but too late for all but a few hundred of priority II men. The rest are serving or have already served.

The new law reduces the service limits to seventeen months. The effect of this is to move all priority II men with seventeen months or more previous service to priority IV. There they will be protected

against recall until all priority III men—with no service at all—have been called up. Because there are more than 30,000 men in priority III, there is no chance that the priority IV men will be called during the two-year life of the new law, except in the case of a general war.

But more important, from the standpoint of correcting an injustice, is a provision of the new law which gives full credit for service of any kind since September 16, 1940. Under the old law, service other than as a physician or dentist was stigmatized as sort of second-class service, not to be credited against a future obligation.

This will mean that the priority II man, in totaling his past service toward the seventeen months that put him in priority IV, may count the time spent in the armed forces before starting his education.

The reserve situation also is well corrected. At the start of the Korean war hundreds of physicians and dentists who hardly knew they were in the reserves were given mandatory orders to report for duty. The new law provides that any doctor recalled for twelve months or more

since start of the Korean war must be allowed to resign his commission; in fact the language states that the commission will be "terminated" automatically.

An effort also is made to make the law retroactive. The law provides that any man now on active duty who would not have been called had the new law been in effect at the time must be released by October 1. The only qualification here is that the officer must apply for his release; this was added to permit some officers to remain in service until they could rearrange their personal plans in preparation for an earlier release than expected.

Minor provisions of the new law make aliens eligible for commissioning, allow credit for U. S. Public Health Service duty only if the officer's release is approved by PHS, and credit time spent in the employ of the Panama Canal Health Department.

It took a conference of Senate and House committees to work out a sliding scale of obligation: A man with less than nine months' prior service may be recalled for the full twenty-four months, one with less than twelve months for twenty-one months, one with less than fifteen months for eighteen months, and one with less than twenty-one months for fifteen months. Those who have had twenty-one months or more prior service may not be recalled at all.

During the next two years there is virtually no chance that any priority IV men will be called. The schedule was set up merely to provide for any eventuality.

During the last three years

(Continued on page 50)

Which aged patient has PA...?

Pernicious anemia is basically a disease of older people. Although none of the aged patients depicted here may have pernicious anemia, it is very likely that all of them have deficient secretion of intrinsic factor, which in extreme cases would result in pernicious anemia. Among the many functions of the human organism which slow down as we advance in age is the stomach's secretion of intrinsic factor. Assure a full quota of intrinsic factor and its essential partner, vitamin B_{12}, for your aged patients by prescribing Bifacton. Only two tiny Bifacton tablets constitute a full U.S.P. anti-anemia unit, sufficient for maximal daily replacement of intrinsic factor and vitamin B_{12}.

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Bifacton Patent Pending

American Medical Association carefully followed the operations of the law and made numerous studies and reports on how it was operating. The corrective amendments are a credit in large part to the dogged work of representatives of AMA and American Dental Association, who cooperated with the services to make the law work, yet fought stubbornly for changes when the time came for hearings before Congress.

VA Fight Flares Late

One of the most bitter fights of the session was started unexpectedly when a rider that could vastly expand Veterans Administration's care of non-service connected cases was detected in the VA appropriations bill. One provision of the rider would permit the VA to investigate when there was reason to believe that a non-service connected case applicant for hospitalization had falsely sworn that he could not afford to pay the full cost of treatment outside the VA. The other provision would have the VA attempt to collect a portion of the bill from all non-service cases.

American Medical Association reasoned that these two provisions, working together, would encourage millions more veterans to apply for care of their non-service conditions, with the understanding that they would pay part of the bill.

AMA, with support from some other professional associations, argued that when the federal government had an obligation, such as for service-connected cases, it was to pay all the costs, but that the federal government shouldn't be allowed to offer bargain-rate medi-

(Continued on page 54)

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3-163

Sinusitis Pain

cal care to a large portion of the population for conditions that had no connection with military service.

At this writing the issue had not been decided.

Washington Notes

¶Toward the close of the session, and with no possibility of action on their proposal, Sens. Humphrey and Lehman introduced a bill to provide free hospitalization of Social Security beneficiaries 65 years of age and over. The idea was first offered by Federal Security Administrator Oscar Ewing more than two years ago and has made no progress.

¶VA, which had been losing ground steadily on the issue for many years, finally admits that exclusion clauses can't be kept out of hospitalization contracts. The clause exempts companies from payment when the policyholder receives treatment in a VA hospital.

¶A House subcommittee report on VA hospitals carries the amazing information that some hospitals found that none of their applicants carried hospitalization insurance, while others reported coverage as high as 65%. However, in view of the VA decision not to fight exclusion clauses, the variation in coverage is only of academic interest.

¶The National Institutes of Health will review applicants for study grants only twice a year, rather than three times. Applications must be received by October 15 or February 15. However, the Institutes will continue the present system of three yearly sessions for reviewing research grant applications.

"Phew! What a day!"

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*Peshkin, M.M., and others:
Ann. Allergy 9:727 (Nov.-Dec.) 1951

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MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

by WALTER C. ALVAREZ, *Editor-in-Chief*

Is Roentgen Therapy Always Safe as a Placebo?

Before me lies a letter from a fine, able physician, an old friend, written the day before he died of cancer of the lung. He wrote because he wanted his experience to be helpful to other persons suffering as he was suffering. Some three months ago, when he discovered an inoperable cancer in his lung, he was a healthy looking, well-nourished, wide-awake man, seeing many patients a day—a man who looked as if he ought to live for at least another year.

Although a biopsy of the tumor showed a type of cell not likely to be radiosensitive, he was given roentgen therapy. He did not want it, but accepted it to please his wife. In spite of the fact that the treatment was given by an able man and in divided doses, the doctor's immediate reaction was abnormally severe. Right away he felt very toxic; he suffered extreme nausea and lost all appetite, and fever developed. In a few days he became weak and haggard, and in a matter of weeks he was dying.

As he wrote me, he had seen a number of cases like his own in which it seemed that roentgen therapy, ordered as a placebo, had served only to turn the tide against the patient and to send him the more rapidly downhill. I have suspected in some cases that the same bad effect was produced by large doses of a nitrogen mustard given in desperation to patients with advanced Hodgkin's disease.

My friend asked me to publish this note and to suggest that if a patient, and particularly one who is getting roentgen therapy largely to please his family, reacts unusually severely to the

first 1 or 2 fractions of the dose, the treatment might well be stopped.

The doctor thought also that this would have been fairer to the roentgenologist who, because of the nature of the tumor cells in the individual, had been reluctant to give the treatment and had advised against it. It might be fairer also to the whole cause of roentgen therapy because it hurts the reputation of any procedure to use it often in cases in which it cannot do any good.

Obviously, as my friend wrote, he had no criticism of roentgen therapy or roentgenologists, he had nothing but admiration for the splendid results they daily obtain; he was talking of only one small group of cases which he felt most roentgenologists would gladly leave alone.

Modern Medicine Awards for Distinguished Achievement

I would here like to call attention to the announcement on page 150 that again this year Modern Medicine Awards for Distinguished Achievement will be presented to men making outstanding contributions to the advancement and practice of medicine. Winners of previous awards have told me that this honor means much to them because so many physicians take part in the selection. The Editors of *Modern Medicine* urge all readers to submit their nominations so that the Honor Roll will remain truly representative.

Do Laundries Sterilize Clothes?

In a recent report, Brooks D. Church and Clayton D. Loosh stated that the washing in hot soapy water, the drying, and the ironing in laundries serve to kill most of the harmful bacteria in the articles cared for. Unfortunately, the authors' research also showed that in most laundries the incoming dirty clothes are sorted out in the same big room in which all the other work is done. Thus the clean clothes about to be sent out are to some extent reinfected by the many germs that are floating in the infected air.

This finding should mean a lot to hospitals who handle their own laundry. The linen should be much freer from dangerous germs if a few partitions are put up in the laundries and exhaust fans are installed in the sorting room.

Continued chemical irritation of upper respiratory passages by tobacco may induce smoker's asthma.

Smoker's Respiratory Syndrome

GEORGE L. WALDBOTT, M.D.
Detroit

AN asthma-like condition, without an allergic origin, may be induced by smoking and relieved by discontinuing the use of tobacco.

Among 31 patients with this entity—termed smoker's respiratory syndrome or smoker's asthma—George L. Waldbott, M.D., finds chronic pharyngitis to be the most constant feature.

The pharyngeal mucosa shows constant hyperemia and lymphoid hyperplasia and is often covered with mucopurulent material. Expectoration, wheezing, cough, and a tendency toward acute respiratory infections are also noted. At times dyspnea on exertion, chest pains, and hoarseness may cause trouble.

The symptoms are probably caused by chemical irritation from tobacco or other irritants. The mucus formed by chronic inflammation partially obstructs the air passages and produces the wheezing. The mucus, as well as the action of the tobacco, accounts for the feeling of constriction and for bronchospasm and dyspnea on exertion.

The pharyngitis and other symptoms usually disappear promptly when smoking is stopped, although irreversible lesions undoubtedly develop sometimes from persistent irritation and frequent infections.

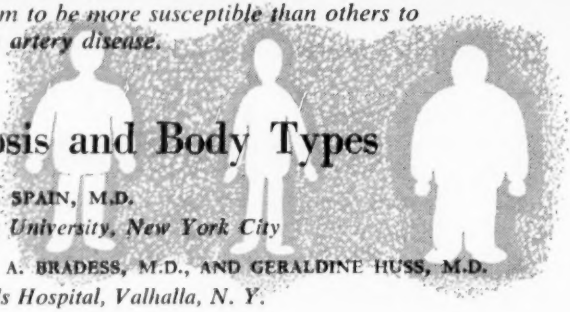
Smoker's asthma can be distinguished readily from allergic asthma. The paroxysms of wheezing are not nearly as distressing as those of allergic asthma. The patient can sleep lying down; usually, the asthmatic patient cannot. The wheezing occurs principally in the tracheobronchial region; in asthmatic individuals, rhonchi are heard anywhere in the lungs.

With the smoker's syndrome, upper respiratory infections originate in the pharynx or tonsils; with bronchial asthma, the disorders are usually localized in the mucous membranes of the nose and sinuses, which show typical allergic edema and pallor. The vital capacity is more severely decreased in cases of bronchial asthma.

The lack of an allergic background and of eosinophilia in the blood and in the nasal and bronchial secretions characterize smoker's asthma. The patients with smoker's asthma have normal skin reactions to tobacco smoke or to tobacco extracts and have no other sensitizations. However, exposure to such irritants as odors of paint, burning wood, frying fat, and grain dust may bring about an asthma-like wheezing in cases of smoker's asthma.

Smoker's respiratory syndrome, a clinical entity. J.A.M.A. 151:1398-1400, 1953.

Individuals of medium muscular build seem to be more susceptible than others to coronary artery disease.



Atherosclerosis and Body Types

DAVID M. SPAIN, M.D.
Columbia University, New York City

VICTORIA A. BRADESS, M.D., AND GERALDINE HUSS, M.D.
Grasslands Hospital, Valhalla, N. Y.

CORONARY artery atherosclerosis is more pronounced and develops at an earlier age in mesomorphic men than in men of the other somatotypes.

In Sheldon's classification, the three body configurations are [1] mesomorphs or individuals of medium muscular builds, [2] ectomorphs or thin persons, and [3] endomorphs or round, flabby men. To correlate atherosclerosis and somatotype, David M. Spain, M.D., Victoria A. Bradess, M.D., and Geraldine Huss, M.D., made autopsy studies of two groups.

The first group consisted of 38 adult white men under the age of 46 whose deaths were due to coronary artery disease, and the second of 73 white adult men younger than 46 who died suddenly from some noncardiac condition or trauma. In both groups, the cases were consecutive.

Among those dying from coronary artery disease, 63% were mesomorphs, whereas only 41% of the other group were of that type. The latter figure is probably higher than the distribution of mesomorphic individuals in the general population but may be explained by the tendency for mesomorphs to engage in activities that may lead to violent death.

In the coronary artery disease group, no increased number of professional, business-managerial individuals, men of Jewish faith, or obese persons was found.

Of the 38 who died of advanced coronary atherosclerosis without significant previous related symptoms, only 5 had thrombi, 2 had hypertension, 5 had myocardial infarcts, and 2 had had angina. Advanced arteriosclerosis limited to one small segment of the coronary arterial tree was encountered in 2 instances.

No relationship could be found between onset of fatal coronary episodes and activity, the month of the year, or the time of day.

The degree of coronary sclerosis is distinctly more pronounced in mesomorphic persons. In the group of dominant mesomorphs were 10 cases with 3-plus and 4-plus coronary sclerosis, whereas none of the ectomorphs had such pronounced sclerosis.

The differences between the two

Observations on atherosclerosis of the coronary arteries in males under the age of 46: a necropsy study with special reference to somatotypes. Ann. Int. Med. 38:254-277, 1953.

groups—those who had coronary deaths and those who succumbed from noncardiac causes and had no sclerosis—were insignificant as to body weight, heart weight, and pattern of coronary circulation.

Many individuals who are considered healthy up to the time of sudden, violent death have quite extensive atherosclerosis of the coronary arteries. Among the apparently healthy males between the ages of 36 and 46, approximately half had anatomically significant atherosclerosis of the coronary arteries.

The dominant mesomorph with secondary characteristics of endomorphy is the individual most likely to have atherosclerosis of the coronary artery.

In many instances only a moderate degree of coronary atherosclerosis with superimposed thrombi is the underlying mechanism in the production of coronary insufficiency. This superimposed thrombus produced the clinical picture.

Mesomorphs often engage in activities associated with sudden episodes of physical and emotional stress. These events may temporarily increase the tension and the flow of blood through the coronary arteries with the resultant strain on these vessels and a temporary increase in filtration pressure favorable to the passage of lipid into the arterial wall. A greater exposure to stressful situations would account for the earlier development of coronary sclerosis in mesomorphs, the greater incidence of atherosclerosis in young males as compared to young females, the more frequent incidence in general practitioners of medicine than in consultants or specialists, and the higher rate in older than in younger individuals.

ARTERIAL HYPERTENSION may be satisfactorily controlled without toxic manifestations by oral administration of the methonium compound, M. & B. 2050 A. Chemically the substance is pentamethylene 1:5-bis-N-(N-methyl-pyrrolidinium) bitartrate. After four months of continuous use, F. H. Smirk, M.D., of the Otago University, Dunedin, New Zealand, finds tolerance and cross-tolerance do not develop to the extent observed with other methonium derivatives. The ganglionic blocking agent is effective in smaller doses than hexamethonium bromide, but postural hypotension in the erect position and additional fall in blood pressure after meals occur with both drugs. Papilledema, headaches, retinopathy, and breathlessness usually diminish more rapidly than with other hexamethonium salts. If side reactions prevent oral medication, the drug dissolved in 25% polyvinyl pyrrolidone with 1:1,000 ephedrine hydrochloride added to slow the absorption may be given by hypodermic twice daily with an interval of ten to twelve hours between injections.

Lancet 264:457-464, 1953.

An objective test has shown that allergenicity of some foodstuffs may be altered by processing.

Allergenicity of Foodstuffs

BRET RATNER, M.D., SAMUEL UNTRACHT, M.D.,
H. JOHN MALONE, M.D., AND MARY RETSINA, M.D.
New York Medical College and Sea View Hospital, New York City
CECIL COLLINS-WILLIAMS, M.D.
Toronto

VARIOUS modifications and processing of food proteins may reduce allergenicity, an important consideration for the individual who is sensitive to the food in native form. Demonstration that ingested foodstuffs react or fail to react in sensitized areas in nonallergic subjects offers an objective method for study of allergenicity of foods in man.

TEST TECHNIC

A dual ingestion passive transfer test is utilized by Bret Ratner, M.D., Samuel Untracht, M.D., Cecil Collins-Williams, M.D., H. John Malone, M.D., and Mary Retsina, M.D. The test, which cannot be influenced by patient or investigator, is performed as follows:

Allergic subjects who have never had virus hepatitis or syphilis are skin-tested with food allergens. Those found skin-sensitive and clinically sensitive to food proteins are used as potential donors. Blood is drawn and the serum separated, tested for sterility, and promptly frozen or lyophilized.

Nonallergic subjects are selected as recipients after testing for hypersensitivity to the substances under investigation. During the test period, the foods to which the donor reacts are eliminated from the recipient's diet.

The donor serum is injected into several skin sites of the recipient to produce passive sensitization. To determine presence of donor specific circulating antibodies, one sensitized area is tested directly twenty-four to forty-eight hours later with the food protein to which the donor reacts. A skin reaction indicates that the donor's serum contains antibodies for specific foods.

One to two days after the direct skin test, the recipient ingests the modified foodstuff that is being investigated. If no reaction occurs in the sensitized areas, the recipient ingests the food in native form twenty-four to forty-eight hours later. Absence of reaction from the modified form and presence of reaction from the native food show that allergenicity has been changed by the processing or heat treatment or that the food did not pass through the intestinal wall.

The positive reaction usually occurs within fifteen to thirty min-

Allergenicity of modified and processed foodstuffs. Ann. Allergy 10:675-697, 1952.

utes or later and persists for several hours. If the majority of recipients react to the native form, the test is valid. A large number of recipients is necessary.

ORANGE JUICE

The properties of a specially prepared orange juice have been studied in guinea pigs by anaphylaxis tests consisting of sensitization and shock procedures and in human beings by the dual ingestion passive transfer test.

The protein derived from orange seed is highly anaphylactogenic. Orange peel oil has primary toxicity but is not anaphylactogenic.

Orange juice devoid of seed protein and peel oil is anaphylactogenic only in the concentrated form but is much weaker than the extract from orange seed. The antigens contained in orange seed protein and those in the juice appear to possess independent antigenic properties.

The orange juice studied has no seed protein or peel oil and is apparently hypoallergenic and nontoxic.

PEANUT OIL

By means of the dual ingestion passive transfer test and experiments in guinea pigs, peanut oil is found to be entirely devoid of any allergenic and anaphylactogenic properties, and can be ingested or injected into peanut-allergic persons.

Allergenic reactivity to an oil has been overexaggerated. Pure vegetable oils contain no protein and, if of standard purity, are harmless to allergic individuals. Antibiotics may safely be dispensed in a peanut-oil menstruum.

OTHER FOODS

Egg protein subjected to moist heat appears to lose some allergenicity of the albumin and globulin fractions, but the ovomucoid fraction is not entirely affected. Therefore, the individual sensitive to albumin and globulin can tolerate a hard-boiled egg but the person sensitive to ovomucoid may not.

Fish proteins remain highly allergenic in spite of subjection to moist heat. Cod-liver oil has no allergenicity in relation to codfish hypersensitivity.

HUMAN ACTINOMYCOSIS, refractory and tending to chronicity like other fungal infections, may be successfully treated with aureomycin. Leon V. McVay, Jr., M.D., and Douglas H. Sprunt, M.D., of the University of Tennessee and John Gaston Hospital, Memphis, believe that observation for five years is necessary to establish the actuality of cure. However, the administration of 750 mg. of the drug orally every six hours for ten days, then 500 mg. every six hours for eighteen days has resulted in apparent eradication of cervicofacial mycosis without recurrence within two years. The disease should be considered in the diagnosis of all subacute and chronic inflammatory processes.

Ann. Int. Med. 38:955-966, 1953.

A motor phenomenon distinct from cardiospasm may be the cause of swallowing difficulties.

Dysphagia from Contractile Ring

FRANZ J. INGELFINGER, M.D., AND PHILIP KRAMER, M.D.
Massachusetts Memorial Hospital, Boston

TRANSIENT and narrow annular constriction in the lower esophagus may produce dysphagia.

The syndrome, observed in 6 male patients by Franz J. Ingelfinger, M.D., and Philip Kramer, M.D., is described as a painful sticking sensation sharply localized under the lower portion of the sternum, occurring while eating. The distress may be moderately severe to agonizing and is sometimes accompanied by considerable anxiety.

The discomfort and feeling of complete esophageal occlusion may last from minutes to hours; then a sensation as if the bolus had worked through the area is felt, followed by a slowly subsiding aching pain. During moderate episodes the patients often drink water in an effort to force the food into the stomach, but patients with severe attacks are afraid of swallowing anything until the obstruction is released.

Attacks are precipitated only if the patients eat certain types of food or if solids are swallowed hastily without mastication. Of the solid foods, bread and meat are most commonly incriminated. By avoiding the offending foods, by chewing well, or by eating a semi-liquid diet, the careful patient can avoid symptoms for long periods.

The attacks occur intermittently over a period of months to years. Frequency of the episodes varies with the severity of the esophageal disorder.

Because the symptoms are intermittent, progressive weight loss and debility are not prominent. Patients do not regurgitate between attacks.

The radiologic apearance of the constriction as seen while swallowing a barium suspension is a sharply demarcated ring-like band 2 to 6 mm. wide, forming a clearly defined angle with the esophageal wall and intersecting the lumen at a right angle to the long axis of the esophagus. The constriction is usually 2.5 to 6 cm. above the junction of the stomach and esophagus and about 0.5 to 2.5 cm. above the diaphragmatic shadow.

In less severe cases the constriction may not be seen until the principal mass of the swallow reaches the lower esophagus. The symptoms of the syndrome may be reproduced and the constriction ring demonstrated readily by mixing bread or meat with the barium suspension.

Dysphagia produced by a contractile ring in the lower esophagus. Gastroenterology 23:419-430, 1953.

The ring-like constriction may represent an overactive mechanism of the inferior esophageal sphincter, a muscle that has been described by several anatomists.

The condition may be distinguished from cardiospasm by the long intervals of normal swallowing between attacks, as well as the absence of regurgitation when the patient lies down and, radiologically, by the sharp constriction and the lack of involvement of the propulsive force of the entire lower half of the esophagus.

In 6 patients described, 2 had duodenal ulcers and 1 a questionable ulcer, although the ulcer symptoms were quiescent in all cases. Previous diagnoses included cardiospasm, inflammatory stricture, diaphragmatic hernia, and psychoneurosis.

Removal of the distal 4 cm. of the esophagus gave relief to 1 patient. Another received benefit from dilatation of the lower esophagus, and 4 were able to control the condition by means of careful mastication and dietary regulation.

Hay Fever in Immigrants

HARRY H. SHILKRET, M.D.,
AND LEOPOLD C. LAZAROWITZ, M.D.

HEREDITY is generally accepted as a main cause of allergy, yet some physicians give more weight to chance influence such as amount and time of exposure to irritating proteins.

Etiologic importance of both factors was demonstrated in 2 types of hay fever patients by Harry H. Shilkret, M.D., and Leopold C. Lazarowitz, M.D., of New York University, New York City.

A group of 162 immigrants from countries free of ragweed had lived in the United States for more than ten years when examined. None had hay fever on arrival, at the average age of 19 years, but symptoms began at 35 years, after about sixteen years of exposure to ragweed pollens in this country.

Native-born patients numbering 102, who were exposed from birth, were nearly 25 years old at onset of hay fever. Moreover, skin tests with ragweed extracts showed considerably less sensitivity than among immigrants. Long experience with allergens apparently favored development of specific antibodies.

Allergy in other members of the family was admitted by 51% of native-born citizens but by only 22% of foreigners. Relatively low incidence was probably due to the fact that parents of immigrants were not in contact with ragweed pollen and also, perhaps, to the earlier and more frequent diagnosis of allergy in America.

Hay fever in immigrants. Ann. Allergy 11:194-198, 1953.

Criteria for selecting patients for commissurotomy should be familiar to all general practitioners.

Indications for Mitral Commissurotomy

ROBERT A. BRUCE, M.D., AND K. ALVIN MERENDINO, M.D.
University of Washington and King County Hospital, Seattle

DAVID L. RODGERS, M.D.
San Francisco

THE general practitioner is often the first person to recognize mitral stenosis and should understand when valvulotomy is required.

The typical murmur alone is not an indication. Without surgery many patients do well for years, but others may die.

In selecting operative cases, Robert A. Bruce, M.D., David L. Rodgers, M.D., and K. Alvin Merendino, M.D., are guided by the following:

The *diagnostic features* include a straight left cardiac border, caused by enlargement of the pulmonary conus, artery, and left auricle and revealed by percussion or radiography.

The first heart sound at the apex and second sound at the base to the left of the sternum are accentuated. Several kinds of murmur may appear, such as middle or late diastolic type at the apex, and sometimes a systolic murmur at the left sternal border from the pulmonary artery. Early diminishing diastolic Graham Steell murmur of pulmonic insufficiency may develop.

Murmurs at times vary with posture—for instance, some are heard only with left lateral decubitus position—or with arrhythmias and fibrotic or calcific changes. Loudness usually increases with forced expiration. Fluoroscopic demonstration of a moving calcified valve is confirmatory.

Need of surgery is shown by pulmonary engorgement and reduced working capacity. Cardinal symptoms are dyspnea, orthopnea, cough, and hemoptysis.

The first sign of weakness is fatigue, followed by inability to perform daily tasks and later by obvious heart failure. Even without these indications, surgery is required after either [1] definite congestive failure in pregnancy or [2] repeated dangerous arterial embolism for which prophylactic auricular appendectomy is proposed.

Contraindications to valvulotomy are active rheumatic fever or subacute bacterial endocarditis; intractable heart failure; severe aortic stenosis, mitral insufficiency, or left ventricular enlargement; or left axis deviation of electrocardiogram.

In deciding the *best time* for surgery, much may be learned from symptoms and signs, fluoro-

A program for selection of patients for mitral commissurotomy. Northwest Med. 52:201-206, 1953.

scopic study, pulmonary function, and phonocardiograms.

Serial exercise tolerance tests demonstrate not only need and time for surgery but postoperative improvement and necessary changes in digitalis or other therapy. The method of Welch and associates is excellent for office use.

The subject is asked to go up and down a step—for instance, that attached to an examining table—twenty times a minute for ten minutes, if possible, otherwise for as long as possible. The respiratory rate is determined every minute by an L-shaped piece of paper attached to the nose with scotch tape. The heart rate is counted for each of the first three minutes after exercise. The physical fitness index is expressed as:

$$\text{PFI} = \frac{\text{Endurance in minutes} \times 10{,}000}{\text{Average exercise respiratory rate} \times \text{total heart beats for three minutes of recovery}}$$

Normal range is 9 to 19, subnormal 1 or less to 9.

Operation is not done with a PFI of less than 2. Bed rest is ordered, and the score may rise to the point where valvulotomy is safe.

Function is also graded by the American Heart Association standard:

I. Able to perform ordinary daily tasks without symptoms.
II. Working full time with moderate or infrequent symptoms.
III. Unable to work full time because of severe symptoms.
IV. Unable to work at all, confined to bed or chair.

Surgery is undertaken when a Class II or III disability is combined with a subnormal fitness record and inadequate cardiorespiratory function, but only if reserve strength appears equal to the strain.

¶ TETANUS may be treated successfully with succinylcholine administered by continuous intravenous infusion. With this method, Ronald Woolmer, B.M., and J. E. Cates, M.D., of the University of Bristol, England, find that muscular relaxation is faster than with other peripherally acting relaxants while the danger of respiratory infection attendant upon the use of hypnotics is avoided. When a 58-year-old woman with lockjaw was given from 1.5 to 3 mg. per minute of an isotonic saline solution containing 3 mg. of the drug per cubic centimeter, spasms stopped after eight days and stiffness of the jaw after seventeen. The procedure required constant medical supervision with variation in dosage to as little as 0.2 mg. a minute as a result of neutralization of the toxin and change in acetylcholine-cholinesterase balance. Antitetanic serum, 100,000 units intramuscularly repeated after three days, and procaine penicillin, 900,000 units daily for ten days, were given and tracheotomy was done using local anesthesia.

Lancet 263:808-809, 1952.

The possible favorable therapeutic values from blood transfusions must be balanced against potential hazards.

Dangers of Blood Transfusions

BRUCE K. WISEMAN, M.D.
Ohio State University, Columbus

THE use of whole blood by transfusion, unless the indications are decisive, is to be discouraged, observes Bruce K. Wiseman, M.D.

Hemolytic reactions—Human error and improper handling of blood are common sources of incompatible transfusion reactions. A trained attendant should be with the patient for at least fifteen minutes after the blood is started, since most fatal hemolytic reactions occur in this period.

Slow hemolysis may result from laking of red cells because of technical errors in collection or storage. Over-age banked blood suffers considerable loss through intravascular hemolysis during the first week after infusion. Since hemolysis is slow, no adverse effects are observed. However, if blood is given for anemia, storage should not exceed five days.

The commonest cause of reaction is the increasing number of persons who have been sensitized by antigens not demonstrable by routine matching and cross-matching. At least 80% of blood donations properly matched with respect to groups A, B, and D have one or more antigenic group substances lacking in the recipient cells. Because of these undetected isoantibodies, approximately 1 reaction occurs in every 500 transfusions.

Risk is decreased if donor and recipient are both Rh negative, and greater if both are Rh positive. Husbands should not be donors for their wives because of the possibility of erythroblastosis in subsequent pregnancies.

Protection against most incompatibility reactions is obtained by use of the Coombs' test in cross-matching. Any reaction should be completely investigated to prevent repetition.

Routine use of Group O blood as a universal donor is not perfectly safe or acceptable. Type A_2 donors may be mistyped as Group O. Back typings can eliminate this danger, but are not often done.

Some Group O persons have unusually high titers of anti-A or anti-B or both. Hemolysis will occur if this blood is given to a patient of Group A, B, or AB. If Group O blood must be used for an emergency purpose, 10 cc. of 0.1% solution of A and B substances should be added to each pint of donor blood for any recipient other than of Group O.

Serum hepatitis—At least 2 viruses capable of producing hepatitis may be transmitted by trans-

Problems and dangers of blood transfusion. J. Indiana M. A. 46:390-395, 1953.

fusions. Jaundice from the virus of infectious hepatitis appears after two to six weeks; that from homologous serum virus develops two to five months after parenteral entry of the agent.

The probable attack rate may be as high as 1 in every 50 transfusions. Since many asymptomatic carriers of the infectious hepatitis virus exist, the blood should be tested for serum bilirubin, cephalin-cholesterol flocculation, and thymol turbidity.

Infectious reactions—Although rare, infectious reactions carry an extremely high mortality. These are almost always caused by human error.

Gas embolism—Gas should not be used to produce pressure in the transfusion flask to accelerate rate of flow. Rapid transfusion is accomplished safely by using a three-way stopcock and a 50-cc. syringe operated manually.

Benign reactions—Anaphylactic and pyrogenic reactions are rarely hazardous but are uncomfortable. Anaphylactic reactions are usually avoided by use of resuspended washed red cells. Pyrogenic reactions can be overcome by preliminary preparation with 100 mg. of cortisone daily in divided doses beginning one day before starting the transfusions and continuing through the transfusion period.

Transfusion therapy—The giving of whole blood or resuspended red cells is dangerous in cases of congenital hemolytic anemia. A lower nephron syndrome sometimes develops. Transfusions are unnecessary even when the red count drops to the 1,000,000 level and need not be given before splenectomy in this disease.

If red blood cell destruction in the peripheral circulation is high, vigorous transfusion of a patient with an acquired hemolytic anemia is dangerous. Repeated transfusions will eventually produce a fatal anuria. The proper procedure is to give 1 or 2 pt. in preparation for surgery and the rest after splenectomy. Cortisone is a valuable adjunct.

Treatment for erythroblastosis is transfusion of Rh-negative compatible blood. Exchange transfusions in severe disease are beneficial to relieve the congestive heart failure found in many of the infants and to prevent kernicterus. When a child from an Rh-positive woman has erythroblastosis, proper blood tests for other possible incompatibilities should be done before treatment.

Repetitive transfusions in chronic anemia may increase the incidence of reactions, probably owing to sensitization to groups other than those of the ABO and Rh systems. Hemosiderosis may occur.

Persons who have chronic anemia develop compensatory mechanisms which enable them to live satisfactorily with a low hemoglobin. These should probably not be transfused to levels higher than 8 to 10 gm. per 100 cc. of blood. Patients with disabling cardiovascular diseases should be transfused to approximately normal levels with resuspended red blood cells.

Use of blood to maintain nitrogen balance or replace low serum proteins is ineffective.

A study is presented of 5 cases of diabetes developing during steroid treatment.

Steroid Diabetes

JOHN J. BOOKMAN, M.D., LOUIS E. SCHAEFER, M.D., AND DAVID ADLERSBERG, M.D.
Mount Sinai Hospital, New York City

STANLEY R. DRACHMAN, M.D.
White Plains, N. Y.

THE term steroid diabetes has been used to describe the diabetes induced in rats by administration of compounds B, E, F and corticotropin. Steroid diabetes is distinguished from pancreatic diabetes by [1] insensitiveness to insulin, [2] striking diminution of the glycosuria by fasting without the use of insulin, and [3] negative nitrogen balance as a feature of the known catabolic effects of the steroid hormones on nitrogen metabolism.

A type of diabetes having a character and course compatible with the features of steroid diabetes may develop in human beings during therapy with ACTH or cortisone. John J. Bookman, M.D., Stanley R. Drachman, M.D., Louis E. Schaefer, M.D., and David Adlersberg, M.D., describe 5 such cases appearing during treatment of a basic disease with either ACTH or cortisone, or both.

Glycosuria and fasting hyperglycemia developed in all 5 patients, though none had these conditions when hospitalized before therapy. In all cases the signs of diabetes disappeared with the discontinuation of therapy or with reduction of dosage levels to minimal amounts, such as 10 mg. of ACTH daily. A correlation existed between the extent of glycosuria and the dosage level of the hormones. An elevation in dosage resulted in increased glycosuria, and diminution in the dose was followed by decreased glycosuria.

The development of diabetes was not considered a contraindication to continued use of hormones.

In the 1 patient who could be studied for nitrogen balance, a slight negative balance was observed before insulin treatment although protein intake was extremely high. Ketonuria was observed in only 1 patient.

The most striking common feature seen in all cases was a predisposition to diabetes mellitus. A family history of diabetes was obtained for 4 of the 5 patients. The other patient was reported to have shown glucose in a urine specimen ten years before start of hormonal therapy and had impaired glucose tolerance one year after the end of treatment. All 5 patients probably had primary deficiency of insular function that was enhanced by the

Steroid diabetes in man. Diabetes 2:100-111, 1953.

administration of the pituitary and adrenal hormones.

Apparently ACTH has a greater diabetogenic effect than cortisone, since 4 of the patients received both hormones, but diabetes was observed only during the administration of ACTH. Possibly the stimulation of the adrenal cortex by ACTH results in increased production of compound F, which seems to have a greater effect on carbohydrate metabolism than does compound E. Differences in relative dosage are probably also influential.

The glycosuria in some patients treated with ACTH or cortisone may also result from alteration by the hormones of the renal mechanism of glucose reabsorption without the existence of hyperglycemia.

Some of the features of steroid diabetes may be seen in manifestations of diabetes mellitus. Predisposed individuals may have hyperglycemia and glycosuria accompanying fractures, infections, myocardial infarctions, burns, or emotional trauma. These manifestations may disappear completely and reappear months or years later under stress. Similarly, the changes observed in known diabetics during infections, burns, or other stress situations may be an expression of steroid stimulation superimposed on pancreatic insular insufficiency. The negative nitrogen balance and resistance to insulin so typical of these episodes can be explained on this basis.

Summer Heat and Myocardial Infarction

HOWARD E. HEYER, M.D., H. C. TENG, M.D.,
AND WILLIAM BARRIS, M.D.

ACUTE myocardial infarction is more common in the summer in Dallas than at any other season, although respiratory infections are at a low ebb then and total metabolism is depressed during this period. Northern United States cities report greatest incidence of acute myocardial infarction during the winter.

Howard E. Heyer, M.D., H. C. Teng, M.D., and William Barris, M.D., of the University of Texas and Baylor University, Dallas, believe that the seasonal prevalence in Dallas is explained by the temperature, which usually exceeds 95° F. during July and August.

Apparently, adjustment to a hot climate increases the work of the heart, often with augmented cardiac output, and blood volume also increases. A larger portion of the circulating blood volume is deviated through the skin to promote heat loss. Arterial blood pressure and peripheral resistance fall. Unless replaced, fluid and salt loss may lead to decreased extracellular volume and plasma volume.

The increased frequency of acute myocardial infarction during summer months in a warm climate. Am. Heart J. 45:741-748, 1953.

Usefulness of liver function tests lies in the accurate measurement of patterns of hepatic disease.

Value of Liver Function Tests

S. S. LICHTMAN, M.D.
Cornell University, New York City

GRADUAL advance in the use of liver function tests for diagnostic and screening purposes has resulted in an increased accuracy of diagnosis as well as avoidance of many needless surgical explorations.

Although the results of the tests and the structural changes as judged by histopathologic technics agree only superficially, this discrepancy need not discredit the tests as insensitive. For, as S. S. Lichtman, M.D., emphasizes, the tests measure patterns of liver disease, not specific disorders.

The patterns of liver damage are discerned best by applying groups of appropriate tests at the outset of jaundice and then at repeated close intervals as the condition subsides or deteriorates. The results are interpreted in the light of clinical developments. Since the measurements overlap too frequently to permit a simple practical formulation for routine use in diagnosis, skill of the clinical observer outweighs the tests in diagnostic value.

The standard tests recommended for routine use are the serum bilirubin fractions, plasma protein fractions, alkaline phosphatase, cholesterol ester partition, prothrombin time, cephalin-cholesterol flocculation, and thymol turbidity or refinements of the flocculation reactions.

Urobilinoids excreted in urine and stool should be looked for, mindful of the fact that the oral use of antibiotics may curb the bacterial reduction of bilirubin in the colon. The galactose tolerance is not determined often enough. Coproporphyrin estimation in the urine and cholinesterase determinations in the serum deserve trial.

Although reference is made to serum bilirubin fractions, current concept leans toward the belief that but a single type of serum bilirubin exists. The speed of the diazo reaction depends mostly on the pigment-protein complex involved. In vitro, the easily dissociable bilirubin-serum albumin compound reacts readily and rapidly with the diazo reagent, in contrast to behavior of the stable complex formed between bilirubin and alpha globulin.

The serodiagnostic tests depend in great measure on the globulin protein fractions. The cephalin flocculation and cadmium reactions are influenced by alpha globulin. The thymol turbidity reaction involves the beta globulin fraction in association with a lipid complex. The gamma globulin fraction is tied in with most of the flocculation reac-

The present status of liver function tests. Rev. Gastroenterol. 20:221-226, 1953.

tions and more specifically with the zinc sulfate test. Positive results of these tests do not necessarily imply hepatic disease. Reticuloendothelial disorders are associated with hyperglobulinemia and with positive reactions of flocculation. When the liver is not actively involved, the results of the standard liver function tests remain negative.

The cholesterol and phosphatase determinations are somehow bound up in the phase of recovery, regeneration, and immunity. Hypercholesterolemia and increased serum alkaline phosphatase are interpreted as signifying cellular overactivity or regeneration of certain liver tissue in some cases. The reverse shows liver cell underactivity.

The hemolytic and nonhemolytic types of jaundice can positively be differentiated by the bilirubin pigment tests and ancillary hematologic studies, but retention and regurgitation types of jaundice marked by obstructive features cannot be differentiated by the pigment tests alone. This also applies to the bromsulfalein retention tests, the dye analogue of bilirubin.

The tests that assist in differentiating medical and surgical jaundice are those concerned with parenchymal damage, for example cholesterol partition and alkaline phosphatase.

Lesions Producing Symptoms of Bursitis

JOHN D. OSMOND, JR., M.D.

DIAGNOSIS of shoulder bursitis must be confirmed roentgenologically before treatment. Many conditions may produce similar symptoms, and distinctions cannot be made by history and physical examination alone, remarks John D. Osmond, Jr., M.D., of Western Reserve University, Cleveland.

Lesions producing bursitis-like symptoms include chip fracture of the greater tuberosity of the humerus, posterior subacromial dislocation of the head of the humerus, subpectoral abscess, actinomycosis of the humerus, tuberculous arthritis of the shoulder, osteoarthritis of the cervical spine or shoulder joint, giant-cell tumor of the greater trochanter, osteomyelitis, sarcoma, rupture of the supraspinatus tendon, carcinoma of the lung, and metastases. Cardiac, gallbladder, or pleural disease may also produce shoulder pain.

The technic of roentgen examination is well standardized. Anteroposterior films are made with the arm in extreme external rotation and internal rotation. At least one film should include the entire shoulder area, humerus, and superior portion of the thorax.

The diagnosis of peritendinitis is confirmed when calcified deposits appear in the musculotendinous cuff without other changes.

Lesions producing bursitis-like symptoms. Ohio State M. J. 49:302-304, 1953.

A practical technic is described for handling difficult-to-close duodenal stumps.

Duodenal Closure after Gastric Resection

DEAN MACDONALD, M.D.
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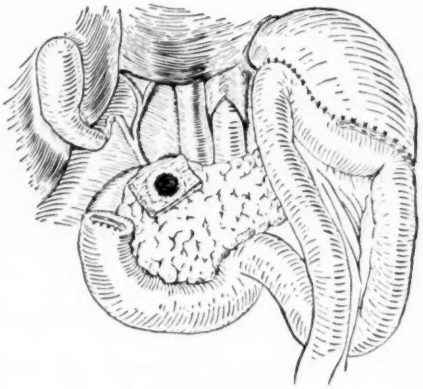
POOR results immediately after a gastric resection are usually chiefly the result of a leak from the turned-in duodenum or from trauma to the pancreas. Closure of the duodenum in anatomically normal and physiologically healthy tissue is an excellent method of preventing these often fatal early complications, explains Dean Macdonald, M.D.

If the ulcer-pancreas involvement is disturbed as little as possible—and yet adequately treated—the incidence of duodenal leak is greatly lowered.



Completed operation

The procedure is accomplished as follows: After the position of the ampulla is definitely determined by tube, probe, or ureteral catheter in the common duct, the intact duodenum just proximal to the ampulla is freed from the pancreas throughout the circumference for 10 to 15 mm. Another useful way to locate the ampulla of Vater is to inject methylene blue into the common bile duct through a hypodermic needle and observe the area of the ampulla with the duodenum opened.

The duodenum is next transected with or without clamps, and a clean, safe, and secure closure of the distal segment is made in healthy tissue. Cutting of the duodenum on the bias, with the longer edge on the outer side, farthest from the pancreas, may give more duodenal tissue for closure when necessary.

Closure of the duodenum thus becomes the first procedure—and a planned and definitive one—which assures use of normal tissues early in the operation, rather than a forced use of the best tissues available after the duodenal lesion is removed.

After the pylorus is transected, the remaining and distal section of the pylorus and the remaining and proximal part of the duodenum are incised longitudinally along the line

The pyloroduodenum and gastric resection. Surgery 33:394-398, 1953.

of the antimesenteric border, and the lumen is laid open. Tnis produces an oblong or square of gut wall covered with pyloric and duodenal mucous membrane on which the ulcer is clearly seen. This piece of tissue is then carefully dissected and removed as desired and not as dictated by necessity, as happens if dissection is started in the proximal pyloric area, when the dissection must be continued until usable duodenum is available for secure closure.

If the posterior duodenal wall is too densely adherent, by either inflammatory or scar tissue, or if the ulcer is too penetrating, dissection and trauma can be stopped at once without being influenced by the need to close the duodenum later. The ulcer, minus adjacent secreting mucous membrane, can be easily left in situ on the pancreas without ill effect. Thus, little if any trauma occurs in the dangerous pyloroduodeno-pancreatic area.

In some instances, without this procedure, the operator is forced to progress as far distally on the duodenal curve for the closure as advised. If by design an attempt is made to start the dissection at the distal point in normal tissue and to progress in a retrograde manner toward the ulcer, manipulation and dissection are easier and more definitive because the anatomy is normal and inflammation is slight.

By this method of duodenal closure the duodenal ulcer can be directly visualized and ligated.

Appendicitis with Carcinoma of the Cecum

JOHN F. THOMAS, M.D.

WHEN an elderly patient is operated upon for acute appendicitis, the right colon should be examined for a possible malignant lesion in the cecum. The incision should be wide enough to permit this examination.

Profound anemia, weakness, weight loss, and alternating bouts of constipation and diarrhea are typical of carcinoma of the right colon. The chief symptom usually is pain in the right lower quadrant or the lower part of the abdomen. In 10% of cases, acute appendicitis is a complication of the malignant growth; in 3 to 15%, an appendectomy is performed before the carcinoma is diagnosed.

In reviewing 29 cases of acute appendicitis with carcinoma of the cecum, John F. Thomas, M.D., of Austin, Tex., states that when the cancer is not recognized and removed at the time of surgery for appendicitis, a prolonged, complicated course is initiated. Six months ordinarily pass before an accurate diagnosis is made. By this time the tumor may become inoperable.

Carcinoma of the cecum. Texas State J. Med. 49:222-226, 1953.

Delay in treatment of subphrenic abscess and occurrence of complications profoundly influence prognosis.

Subphrenic Abscess

JAMES J. BERENS, M.D., HOWARD K. GRAY, M.D., AND MALCOLM B. DOCKERTY, M.D.
Mayo Clinic, Rochester, Minn.

AN important and serious condition, though relatively uncommon, is abscess in the subphrenic region. The lesion is a complication of surgery, usually of the gastric or biliary tract, in nearly half of cases. In nonsurgical instances, acute appendicitis or ruptured duodenal ulcer is the usual etiologic factor.

The diagnosis is frequently difficult and delay, with fatal outcome, often results from failure to suspect the possibility of abscess. Therapy is usually not instigated for a month after start of infection.

The unique location of the subphrenic region complicates the operative approach to the abscess, and the proximity to the pleural cavity and liver adds to the hazards, emphasize James J. Berens, M.D., Howard K. Gray, M.D., and Malcolm B. Dockerty, M.D.

Subphrenic abscess may appear at any age. The most frequently occurring initial symptom is pain with fever. Nearly all patients have fever during the course of the infection. Other symptoms are pleurisy and cough. The signs most frequently noted by physical examination are tenderness, dullness and decreased breath sounds, palpable mass, and draining sinus.

The roentgen findings which aid in diagnosis are elevation of the diaphragm, pleural effusion, parenchymal changes in the lungs, and gas in the subphrenic region. Fluoroscopic examination is often of value in diagnosis.

The predominant organisms are streptococci, *Escherichia coli,* and staphylococci.

Thoracic complications are frequent with subphrenic abscess and include pleurisy or pleural effusion, empyema, bronchopleural fistula, pneumonitis, pneumothorax, and pulmonary abscess.

Surgical drainage is required when suppuration occurs in the subphrenic region. The posterior approach is preferred if the abscess can be so reached. The extraserous abdominal route is the best method for draining abscesses that can be reached by the anterior route. Extraserous drainage entails a lower mortality rate than transserous.

When a patient fails to improve after surgical drainage of a subphrenic abscess, reexploration is advisable for possible abscesses in other subphrenic spaces. The overall mortality rate is approximately 20%.

Subphrenic abscess. Surg., Gynec. & Obst. 96:463-470, 1953.

A problem in differential diagnosis is usually presented by a case of appendices epiploicae.

Appendices Epiploicae

STANLEY S. FIEBER, M.D., AND JEROME FORMAN, M.D.
Veterans Administration Hospital, Brooklyn

ALTHOUGH uncommon, diseased appendices epiploicae may easily be mistaken for inflammation of the vermiform appendix. The entity should be considered if, during laparotomy, the gross appearance of the vermiform appendix does not account for the patient's symptoms, comment Stanley S. Fieber, M.D., and Jerome Forman, M.D., who report 3 cases and review 105 from the literature.

The reported ratio of appendices epiploicae to acute appendicitis is from 1:460 to 1:60. The disease is most apt to occur in persons between the fourth and fifth decades, the youngest patient recorded being 19 years old.

The predominant site of diseased appendices epiploicae is the sigmoid colon. Obesity is believed to be significant in the pathogenesis. The pathological conditions observed, in order of frequency, are: torsion, thrombosis and infarction, gangrene, acute inflammation and suppuration, chronic inflammation, and intussusception.

The most common complication, intestinal obstruction, results from the formation of inflammatory adhesive bands. A frequent cause of the obstruction is the adhesion of a pair of appendices across the antimesenteric surface of the bowel, narrowing the lumen. Incarceration of a cecal or sigmoidal appendix in a hernial sac may angulate the bowel at the mouth of the sac causing actual obstruction. Abscess and general peritonitis are complications arising from inflammation or torsion.

The symptoms of appendices epiploicae are insidious and vague. Acute symptoms may last from hours to more than a month. Abdominal pain is the chief disorder, being sudden or gradual in onset and dull, sharp, or colicky. The location of the pain varies with that of the diseased appendage and, because of the position of the sigmoid colon and the cecum, is usually in the right lower quadrant. The next commonest site is the left lower quadrant.

Other symptoms may be nausea, vomiting, and constipation. The patient is usually not acutely ill, is afebrile, and has only slightly elevated pulse rate and respiration. The leukocyte count may be as high as 22,000, but is usually about 10,900.

Examination may reveal occasional guarding over the affected area, with local and rebound tenderness. An abdominal mass may

Appendices epiploicae: clinical and pathological considerations. Arch. Surg. 66:329-338, 1953.

be noted by direct palpation or rectal or vaginal examination. Appendices that are twisting within a hernial sac produce the signs and symptoms of a strangulated hernia.

Diagnosis may be possible by roentgenogram. Three typical signs seen by barium enema examination are: [1] narrowing caused by edema or cicatrix, complete or partial, around the circumference of the bowel, [2] the image of 2 funnels, with the apices end to end, and [3] coarsened mucosa, contracted like an accordion and perpendicular to the long axis of the colon.

The treatment of diseased appendices epiploicae is simple ligation. If the possibility of an enclosed diverticulum exists when an epiploic appendage is removed, the stump should be ligated and finally inverted. Strangulated appendices in a hernial sac should be removed and the hernia treated in a conventional manner.

Intestinal obstruction is a sequel in 9% of cases.

Fluid and Electrolyte Therapy

JOHN H. KAY, M.D., AND ALTON OCHSNER, M.D.

A RELATIVE renal shutdown, generally proportional to the size of the operation, occurs after any surgical procedure. Concentration of electrolytes excreted in the urine during this temporary shutdown is relatively fixed and does not correspond to rising blood levels. Thus, urine chloride and specific gravity determinations are useless in calculating postoperative electrolyte requirements.

Daily water requirements can be determined by weighing the patient and giving 500 cc. of water per pound of weight loss, report John H. Kay, M.D., of Adams Hospital, Panama City, Fla., and Alton Ochsner, M.D., of Tulane University, New Orleans. Chloride and bicarbonate losses are replaced according to daily blood levels of these ions.

Bicarbonate needs are calculated according to the formula: $mM(NaHCO_3) = (60-CO_2) \times 0.7W2.24$, where CO_2 is serum carbon dioxide and W is body weight in kilograms. One millimol of $NaHCO_3$ equals 0.084 gm.

For chlorides, the formula is: Gm. NaCl = (592−NaCl) 10 × 0.7 × W/1,000, where NaCl is serum sodium chloride in milligrams per cent and W is weight in kilograms.

Both chlorides and bicarbonate are given as the sodium salt dissolved in the previously determined daily water requirement. Potassium should be given at the rate of 1 gm. daily beginning forty-eight hours after urine output has surpassed 600 cc. daily.

A rational and scientific method for evaluating fluid and electrolyte therapy postoperatively. J. Florida M.A. 39:815-817, 1953.

The similarity between symptoms of mechanical and paralytic ileus may dangerously delay diagnosis and therapy.

Postoperative Intestinal Obstruction

WILLIAM S. MC CUNE, M.D., AND JOHN M. KESHISHIAN, M.D.
George Washington University, Washington, D.C.

THE recognition of intestinal obstruction in the postoperative period calls for continual awareness of the possibility. Analgesic drugs may obliterate or modify the symptoms and distention and vomiting are easily mistaken for a slight degree of ileus, common during the first days after an abdominal operation.

The mortality rate from intestinal obstruction is being steadily lowered except in cases of postoperative obstruction.

Generalized adhesions or adhesions at the operative site are the usual source of mechanical obstruction. Other causes are intestinal incarceration in peritoneal defects, such as behind an unreperitonealized ureter, separation of the pelvic floor, and failure of intestinal anastomosis to function. Obstruction may occur from the second to the fifteenth postoperative day.

The three symptoms found with the greatest regularity with postoperative mechanical obstruction are rhythmic pain, vomiting, and progressive abdominal distention, report William S. McCune, M.D., and John M. Keshishian, M.D. Pain is usually recurrent and colicky, thereby differing from usual postoperative discomfort. Gas pains are more generalized, lack rhythmicity, and are not usually accompanied by peristaltic rushes which end in high-pitched tinkles.

After recovery from postanesthetic nausea, vomiting occurs in 80% of patients with true obstruction. Low ileal or large bowel obstructions cause late vomiting but provide reliable evidence of a mechanical block.

The degree of distention is often not great, and the prevalent belief that the passage of gas or bowel movements proves the absence of obstruction is contradicted by the fact that some gas or fecal matter is passed by rectum in 40% of cases. Diagnosis and therapy will be delayed unless the possibility of postoperative obstruction is considered.

The most valuable aid, both in the diagnosis of obstruction and in the differentiation between mechanical and paralytic ileus, is the frequent use of roentgenograms and skilled interpretation by a roentgenologist. Films are made in the supine and standing positions.

The most important criteria for the diagnosis of mechanical small bowel obstruction are distended loops of small bowel with no gas in the large intestine. Confirmatory

Postoperative intestinal obstruction. Surg., Gynec. & Obst. 96:567-572, 1953.

is the presence of fluid levels in intestinal loops seen in the upright film.

Portable abdominal roentgenograms are of no value in demonstrating intestinal distention. Small amounts of thin barium, passed through a Miller-Abbott tube, are occasionally helpful in diagnosis, but this procedure is hazardous.

Postoperative obstruction is best treated by surgical intervention if the obstruction is not overcome within a few hours by conservative means such as intestinal intubation, enemas, oxygen, parenteral fluids, and electrolytes.

One-fifth of all cases of postoperative obstruction are the result of partial wound disruption, from the protrusion of a loop of intestine into the inner layer of the abdominal wall. Symptoms become apparent between the fifth and ninth postoperative days and consist of vomiting and distention with or without abdominal pain. Careful inspection sometimes reveals puffiness of the wound area without evidence of induration or more than the usual local tenderness.

Several days may intervene between the onset of symptoms and the appearance of the telltale serosanguineous fluid on the dressing. The best guide to diagnosis is alertness on the part of the surgeon. Once the condition is suspected, a lateral roentgenogram of the abdomen will sometimes reveal the distended loop of bowel in the abdominal wall.

¶LATENT PROSTATIC CANCER is fairly common in men aged 40 years or more. By thorough examination, lesions were found in 14.8% of 81 routine autopsies and in 16.6% of a second series totaling 173 cases, report C. N. Edwards, M.D., E. Steinthorsson, M.D., and D. Nicholson, M.D., of the University of Manitoba and Winnipeg General Hospital, Winnipeg. Origin was generally noted from peripheral prostatic tubules. Tumors tended to involve neural lymphatics early, were often multicentric, and were frequently associated with benign hyperplasia.

Cancer 6:531-554, 1953.

¶SKELETAL METASTASIS from cancer of the urinary bladder, though rare and usually confined to the pelvis and vertebrae, may occur in practically all bones of the body. Tibial tumor, the fifteenth on record, was observed in a 58-year-old woman by Mark C. Wheelock, M.D., and Vincent J. O'Conor, Jr., of Northwestern University and Passavant Memorial Hospital, Chicago. An inflamed tender swelling measuring 8 by 8 by 1 cm. above the right medial malleolus was associated with a lytic bone lesion diagnosed as transitional cell carcinoma.

Quart. Bull., Northwestern Univ. M. School 27:111-113, 1953.

Abnormal sugar metabolism seems to be related to excessive fetal size more than maternal obesity is.

Glucose Tolerance and Baby Size

CURTIS J. LUND, M.D., AND WINSTON H. WEESE, M.D.
Louisiana State University, New Orleans

LARGE babies are obstetric hazards. Toxemia, shoulder dystocia, and antepartum fetal death are common complications, and the pregnancies are often associated with abnormal carbohydrate metabolism.

In a group of mothers of infants weighing over 4,500 gm., Curtis J. Lund, M.D., and Winston H. Weese, M.D., found glucose tolerance curves elevated in nearly half the patients during pregnancy. Usually tolerance returns to normal within three days after delivery; if not, the patient may be prediabetic. If the curve rises even higher post partum, the patient probably has diabetes.

Most abnormal curves result from unknown factors of pregnancy. Such factors, possibly hormonal, cease to operate after delivery and tolerance soon returns to normal.

The fasting blood sugar is frequently lowered in normal pregnancies and, if below 75 mg. per cent, abnormal glucose tolerance is unlikely. The peak of the curve is delayed in such individuals, unless the glucose is given intravenously. Hence, normally pregnant women may have some interference with glucose adsorption but, once adsorbed, the sugar is readily utilized or stored. Diabetes may be erroneously diagnosed during pregnancy by improper interpretation of abnormal glucose tolerance curves.

Administration of cortisone to pregnant women produces intolerance to glucose, as in nonpregnant women. This indicates that hormones and not nutrition probably influence excessive fetal size.

Obese mothers have 10 times as many large babies as do the nonobese. Either maternal obesity or abnormal glucose tolerance curves predispose to large babies but the two in combination are an even greater etiologic force.

The incidence of large babies of mothers with diabetes is about 14.5%, whereas less than 0.5% of babies delivered from normal mothers are excessively large. Although obesity predisposes to big babies, maternal weight gain has no influence on fetal size. Age, parity, and heredity do not affect birth weight.

Renal threshold is altered in about half of normal pregnancies, being lowered in 30% and elevated in 20%. No apparent correlation exists between abnormal glucose tolerance curves and renal threshold.

Glucose tolerance and excessively large babies in nondiabetic mothers. Am. J. Obst. & Gynec. 65:815-832, 1953.

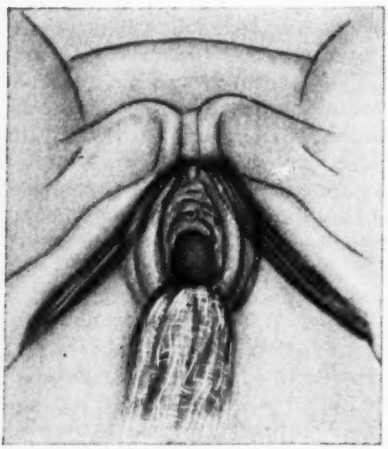
A sling formed from the paired ischiocavernosus muscles may restore urinary control in the female.

Correcting Urinary Stress Incontinence

JAMES C. GOODWIN, M.D.
University of Toronto

A MUSCLE sling formed beneath the urethra using the ischiocavernosus muscles may be of benefit to patients unable to control urine during stress.

The procedure is simple and may be performed alone or with other vaginal procedures for the correction of cystocele or uterine prolapse. James C. Goodwin, M.D., believes that the operation is worth trying when a second attempt is to be made to correct stress incontinence before resorting to such major methods of repair as the Millin or other type of musculofascial or fascial sling.



Ischiocavernosus muscles

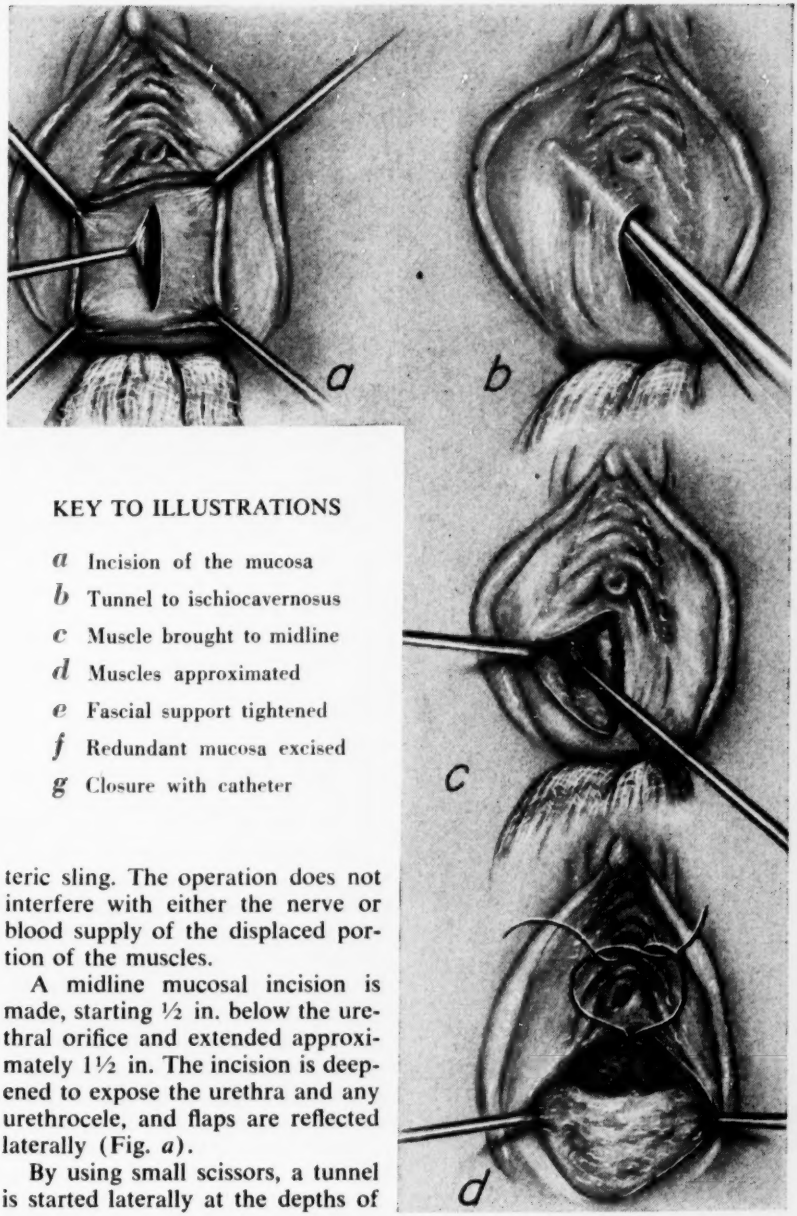
In some cases little or no anatomic derangement is found with urinary stress incontinence. The condition is commonly associated with a urethrocele, but is even more frequently noted in conjunction with genital prolapse, such as cystocele, uterine prolapse, enterocele, or rectocele.

The strain of pregnancy, labor, and delivery is the major etiologic factor. Skillful delivery, combined with an adequate episiotomy done before perineal distention is pronounced, is the best method of preventing urethral sphincteric weakness.

Fibers of the external sphincter are difficult to locate in sufficient amount to restore adequately the slinglike urethral portion of the sphincter. Embryologically, however, the ischiocavernosus and bulbocavernosus muscles and the external sphincter all arise from the same sacral myotomes and have a common somatic and autonomic peripheral nerve supply.

The ischiocavernosus muscles are in close proximity to the urethra and can be used to replace the frequently damaged external sphinc-

The ischiocavernosus muscle-sling procedure for the correction of urinary stress incontinence. Am. J. Obst. & Gynec. 65:65-72, 1953.



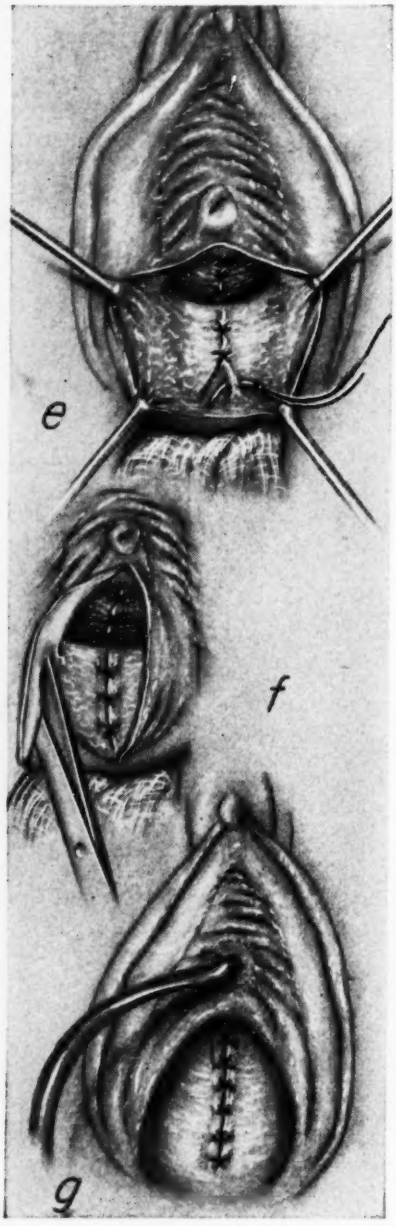
KEY TO ILLUSTRATIONS

a Incision of the mucosa
b Tunnel to ischiocavernosus
c Muscle brought to midline
d Muscles approximated
e Fascial support tightened
f Redundant mucosa excised
g Closure with catheter

teric sling. The operation does not interfere with either the nerve or blood supply of the displaced portion of the muscles.

A midline mucosal incision is made, starting ½ in. below the urethral orifice and extended approximately 1½ in. The incision is deepened to expose the urethra and any urethrocele, and flaps are reflected laterally (Fig. *a*).

By using small scissors, a tunnel is started laterally at the depths of



one reflected mucosal flap. The aim is to find the junction of the anterior third with the posterior two-thirds of the ischiocavernosus muscle, located on the inner and anterior surface of the descending pubic ramus (Fig. *b*).

The muscle and overlying fascia are grasped with an Allis forceps and brought out to the midline (Fig. *c*). A similar procedure is then done on the opposite side, at right angles to the first.

Formation of the sling is begun by placing a suture between the 2 displaced portions of the muscles, about ½ in. below the urethral opening. The muscles should be approximated securely but not too tightly (Fig. *d*). The completion of the sling is performed with 3 more interrupted sutures of No. 0 chromic catgut.

Any laxity in the fascial support of the urethra or urethrocele is eliminated with 3 or 4 interrupted sutures (Fig. *e*). Redundant vaginal mucosa is excised, and the opening is closed with interrupted sutures (Fig. *f*). A Foley catheter is left in place for four days, being clamped during ambulation (Fig. *g*).

The striated ischiocavernosus muscle sling seems to acquire voluntary sphincteric action over a period of time. Voluntary urinary control exercises, without the use of an intravaginal appliance, are an important part of the postoperative treatment for at least one year.

Severe atrophy of the ischiocavernosus muscles may preclude use of the sling operation for an elderly patient, but atrophy of such extent appears to be rather uncommon.

Preeclampsia and eclampsia must be distinguished from hypertensive vascular disease and treated promptly.

Toxemias of Pregnancy

R. S. SIDDALL, M.D.
Wayne University, Detroit

PRENATAL care should always include frequent, careful search for evidence of toxemia, 1 of 3 major factors in maternal and fetal death.

Incidence in a large private hospital is about 2.7%. Most cases are recognized by sustained hypertension, with levels at least 140 mm. of mercury systolic and 90 mm. diastolic.

Since treatment must be prompt and varies with the type of involvement, preeclampsia and eclampsia ought to be differentiated from chronic hypertensive vascular disease as soon as possible. Total weight gain during gestation should not exceed 10 to 25 lb., depending on the original state of nutrition, and obese women may well keep the same weight or lose.

Preeclampsia is characteristically acute and starts after the sixth lunar month of pregnancy in a previously healthy individual, explains R. S. Siddall, M.D. The condition is more likely to occur with primiparas but is not uncommon with multiparas.

Manifestations often appear in chronologic order. Moderate rise of blood pressure is followed by proteinuria in a catheterized specimen and, in more than half of cases, by ankle edema or excessive weight gain from water retention.

The patient should be put to bed at once and given moderate doses of a barbituric acid compound. Blood pressure is determined not less than two or three times daily.

Very few persons will improve and proceed to term with no further trouble; the majority do well for three days, then become worse. Many obstetricians take advantage of this short remission and interrupt pregnancy, either by medical induction of labor or by artificial rupture of membranes. If these measures fail, section is done.

Occasionally, preeclampsia does not respond to bed rest but rapidly becomes worse. Convulsions may be prevented by immediate cesarean section or by deep sedation.

Eclampsia sometimes develops abruptly, with little or no warning, possibly during labor. Routine textbook therapy is then applied, with enough sedation to produce a respiratory rate of 12 per minute. The convulsive subject should be protected from self-injury.

Chronic hypertensive vascular disease starts before and is made worse by pregnancy. This type of toxemia may be identified if discovered before the last trimester;

Some practical aspects of so-called toxemias of pregnancy. Harper Hosp. Bull. 11:46-54, 1953.

later, when albuminuria appears, distinction from preeclampsia may be impossible.

Therapy depends on height of blood pressure and presence or absence of heart and kidney damage. Moderately high pressure is not dangerous, but a constant systolic level of 170 or more means progressively graver risk.

Pregnancy may be halted by induction of labor. Cesarean technic is used when obstetric problems arise, induction fails, or a child is desired despite some hazard to the mother. Sterilization is often advisable and should be done with section or soon after delivery. Hypertensive and preeclamptic patients stand early operation well.

Chronic nephritis, including glomerulonephritis or a definitely contracted kidney, is a contraindication to childbearing.

Anesthesia for delivery of toxemic mothers should be administered by a specialist, if possible. A good choice of agents is gas, such as nitrous oxide, combined with plenty of oxygen and a little ether for adequate relaxation.

Postpartum care is largely a continuation of previous therapy. The toxemic subject should be watched until recovery or signs of permanent damage are noted. If preeclampsia or eclampsia disappears within a week or two after delivery, only the ordinary six to eight weeks of observation will be required, and no restrictions are placed on subsequent conception.

ACTH and Cortisone in Pregnancy

R. R. MARGULIS, M.D., AND C. P. HODGKINSON, M.D.

ADMINISTRATION of either ACTH or cortisone before or during pregnancy does not appear to result in any of the complications that theoretically might be expected.

R. R. Margulis, M.D., and C. P. Hodgkinson, M.D., of the Henry Ford Hospital, Detroit, report cases of ovulation occurring during cortisone therapy, with subsequent normal pregnancies. Study of 28 pregnant patients indicates that the hormones given in usual therapeutic dosage do not cause elevation of blood pressure, edema, hyperglycemia, or serum electrolyte imbalance. Toxemia of pregnancy does not appear to be induced or aggravated if present but no benefit results from ACTH or cortisone for toxemic patients.

The incidence of abortion and premature labor, as well as of postpartum complications, is apparently unaffected by steroid therapy. Since congenital malformations have been seen in animals given adrenal steroids, ACTH and cortisone should be avoided during the first trimester of pregnancy.

Evaluation of the safety of corticotropin (ACTH) and cortisone in pregnancy. Obst. & Gynec. 1:276-281, 1953.

SPECIAL EXHIBIT

HEAT EXHAUSTION

A Modern Medicine Special Exhibit adapted from the presentation made at the American Medical Association convention in New York City by Joost A. M. Meerloo, M.D., of New York City, depicting symptoms and mechanisms of heat exhaustion.

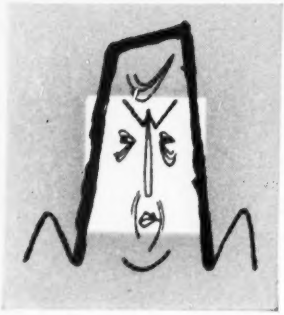
Neurotic Adjustment Problems

Mild or Initial Heat Exhaustion

Heat Stroke

General Methods of Treatment

Effects of Specific Therapy

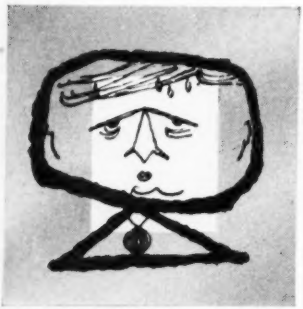


NEUROTIC ADJUSTMENT PROBLEM

with involvement of autonomic nervous system and adaptation mechanisms

SYMPTOMS

Irritability Anxiety



MILD OR INITIAL HEAT EXHAUSTION

with gradual failure of thermo regulators, especially in humid atmosphere, and profuse perspiration leading to loss of ions

SYMPTOMS

Weakness Shortness of Breath Pallor
Low Blood Pressure Anxiety
Fluctuation of Body Temperature

HEAT STROKE

sudden failure of heat regulation; acute sunstroke with sudden collapse

SYMPTOMS

Dry Skin High Body Temperature
Meningeal Complications

WHAT SHOULD BE DONE

Correction of Adjustment Difficulties

Physical
Psychologic

Supplementation of Ions

Extra intake of water
Extra intake of salt and glucose (not too much!)

Central Stimulation

Hot coffee

HOW IT IS DONE

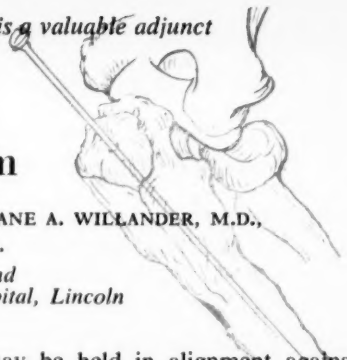
Combination of caffeine and ergotamine. Increased rapidity of action neutralizes the peripheral action of each and influences the neurotic vicious circle of producing extra tension against adaptation to new circumstances.

WHY IT IS DONE

Caffeine	Ergotamine
Central stimulation	Central sedative action
Myocardial stimulation	Peripheral sympathicolytic action
Dilatory action on vessels	Direct action on diencephalon regulators
Diuretic effect	Decreases defensive muscle tension (neurotic factor)

THE COMBINATION PRODUCES STIMULATING RESULTS IN INITIAL HEAT EXHAUSTION WITHIN TEN MINUTES

In selected fractures of the forearm the Küntscher nail is a valuable adjunct to successful treatment.



Nailing of the Forearm

J. E. M. THOMSON, M.D., DUANE A. WILLANDER, M.D., AND EDWARD S. MAXIM, M.D.
Lincoln Orthopaedic Clinic and Veterans Administration Hospital, Lincoln

THE Küntscher nail may be utilized in problem fractures of the radius and ulna when some type of internal fixation of the fragments is required. Reduction is maintained, function returns early, and hospitalization is shortened.

Nonunions and malunions and fresh, comminuted, closed, and open forearm fractures may be treated by intramedullary nailing. The vast majority of problem fractures have had poor results from reduction and fixation before the Küntscher nail is tried. The procedure is safe, affords adequate fixation and contact coaptation, and allows frequent cast changes or dressings of associated injuries.

J. E. M. Thomson, M.D., Duane A. Willander, M.D., and Edward S. Maxim, M.D., expose the fracture by dissection through fascial planes and reduce the break under direct vision. The nail is usually inserted from the distal end of the bone, except in fractures of the proximal end of the ulna, in which the nail is driven down from the olecranon.

If the fracture is severely comminuted, loose fragments can be threaded on the nail during insertion. Any small loose fragments may be held in alignment against the reduced fracture by accessory suture of chromic catgut. Fresh autogenous cancellous iliac bone chips placed about the fracture site stimulate osteogenesis and can be used as a routine adjunct.

A straight nail should be used in the ulna, which is essentially a straight bone. The curved nail may create a deformity, resulting in too close proximity of the bones and synosteosis at the fracture site.

The rotation of the fragments is controlled by a cast extending from the axilla to the base of the fingers with the elbow at 90° flexion, the forearm rotated according to the level of the fracture, and the wrist in dorsiflexion.

The cast is kept on until some clinical and roentgen signs of union are noted. The period of cast protection is usually about fifteen weeks, but may vary from fourteen to three hundred days. Fracture sites treated with supplementary autogenous bone chips are ordinarily protected for about ten and one-half weeks, but the time may vary from nineteen to one hundred and twenty days. The nail may be removed after union is solid.

Küntscher nailing of the forearm in problem cases. Am. J. Surg. 85:486-494, 1953.

Küntscher nails were used for 19 fractures of 12 patients, all of whom are satisfied with the results. The patients have resumed former occupations, many at heavy manual labor. None has pain in the forearm. In 1 case results are questionable, since no clinical or radiologic evidence of union has yet appeared. In this case a Merthiolate bank bone graft shows resorption.

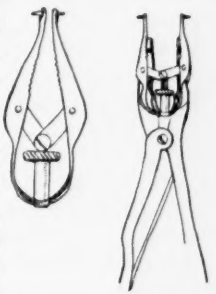
The hospitalization time was reduced to an average of thirteen days in private practice and of fifty-three days in fractures treated at a hospital for veterans.

Instrument for Intervertebral Disk Surgery

RALPH B. CLOWARD, M.D.

IMMOBILIZATION of the loose lumbar vertebral joint after removal of a ruptured intervertebral disk helps prevent symptom recurrence. A vertebral spreader and retractor simplifies the operation.

Ralph B. Cloward, M.D., of Queen's Hospital, Honolulu, removes the lumbar disk subtotally and excises the cortical surfaces of the adjacent vertebral bodies through a partial bilateral laminectomy. Then 3 or more full-thickness bone grafts, taken from the iliac crest, are driven into the intervertebral space.



For good exposure of the anterior wall of the spinal canal and intervertebral disk, a self-retaining vertebral retractor is used. One part, the spreader, is equipped with a rough plate at the end of each short jaw and can be placed between the spinous processes or lamina for manual spreading or inserted into the retractor part to cause the latter to separate.

The small, horseshoe-shaped retractor has a single sharp point on each open end to engage the spines or laminae and prevent slipping. The retractor remains to the side of the wound, out of the way, after the spreader is withdrawn.

When the instrument is used with a self-retaining dural retractor, the surgical procedure for lesions anterior to the spinal dura mater is simplified. In performing the Hibbs spinal fusion, the instrument gives adequate exposure without removing the superior articular facets. By placing the spreader between the laminae, a wide separation of the spinous processes can be obtained and held when an "H" or clothespin graft is to be inserted between the spines.

Lumbar intervertebral disc surgery. Surgery 32:852-857, 1952.

Light sedation in labor, nerve block for delivery, and early ambulation is good obstetric practice.

Spinal Anesthesia in Obstetrics

JOHN P. OTTOWAY, M.D.
Harper Hospital, Detroit

HIGHLY efficient spinal anesthesia for vaginal delivery is provided by a single lumbar injection into the subarachnoid space.

The obstetrician may be his own anesthetist but must be familiar with technic and agents, comments John P. Ottoway, M.D.

Over half the deliveries in Harper Hospital, a private institution, were done with spinal anesthesia in 1952, in contrast to 1.8% in 1946. No maternal death or permanent injury has resulted in a total of 5,278 deliveries during the past seven years. Bilateral quadriceps paralysis occurred in 1 instance but disappeared in six weeks with the aid of physical therapy.

The ideal anesthetic agent induces greatest sensory anesthesia and sufficient muscular relaxation for the proposed procedure, with little blocking of sympathetic ganglia.

Single-dose terminal spinal anesthesia has several advantages. Since consciousness is retained, voluntary cooperation of the mother is not lost. The infant is not endangered by anesthetic apnea, a special risk to the premature, and maternal bleeding in the third stage is greatly reduced. Women weakened by acute or chronic respiratory infection, heart disease, nephritis, diabetes, or hypertension are spared the risks of general anesthesia.

Spinal technic causes fewer headaches than generally supposed, and many are prevented when a 26-gauge needle is used for dural puncture. Bladder retention is unlikely if ambulation is started within twenty-four hours.

Blockade of spinal nerve roots induces both analgesia and muscular relaxation. Sympathetic effects include visceral anesthesia and vascular dilatation.

However, overdosage may cause nausea and vomiting, anoxemia, cerebral anemia, peripheral vascular collapse, and a serious drop in blood pressure or may paralyze the respiratory muscles.

Spinal anesthesia is not used for patients with profound shock, heart failure, version or certain difficult breech extractions, hypotension, or spinal deformity or disease.

Preparation for delivery is the same as with other forms of anesthesia, and choice of the spinal method may be delayed until birth is imminent. The patient usually enters the hospital in active labor; when progressive dilatation of the cervix is noted, analgesia may be given.

Spinal anesthesia in obstetrics. Harper Hosp. Bull. 11:62-67, 1953.

Frequently, 100 mg. of Demerol and 1/100 gr. of scopolamine are mixed in 10 cc. of normal saline solution and injected by vein at the rate of 1 cc. per minute. If labor is prolonged, the injection may be repeated or combined with barbiturates, but scopolamine should not be administered routinely in serial doses without regard to need.

To allow time for transport and for spinal injection, delivery should be anticipated by five or ten minutes. Most primiparas are taken to the delivery room when bulging and slight crowning are observed. Ideally, a multipara is moved when dilatation is complete and the presenting part has just descended to the perineum. At this point some operators rupture the membranes, to make sure of fulfilling the proper indications and avoiding premature anesthesia.

The woman is placed on the side, and the lower back is sprayed with Zephiran. A heavy medium is generally employed—for example, 30 mg. of Metycaine in 5% dextrose solution, or 4 to 5 mg. of Pontocaine in dextrose. However, a hypobaric or isobaric dilution may be preferred, such as 40 to 50 mg. of procaine in spinal fluid.

The solution is injected slowly into the subarachnoid space without barbotage. Lumbar puncture may be done with a 22-gauge needle, or a short 18-gauge type may be inserted through the spinal ligament and a 26-gauge size through the dura.

The mother's head is then elevated, and the table is tipped to reverse Trendelenburg position. Pulse and blood pressure are noted often, oxygen is usually given, and by the time preparations for delivery have been completed, the table can be leveled.

Anesthesia lasts forty to eighty minutes. At the end of the second stage, IV Ergotrate may be given, but not Pituitrin, which tends to cause placental retention. With or without Ergotrate, spinal anesthesia improves uterine contractility and decreases hemorrhage.

¶ OBJECTIONABLE ODOR associated with fatty acid salts may be overcome in sodium propionate solutions by adding sodium copper chlorophyllin. Samuel M. Peck, M.D., Eugene F. Traub, M.D., and Herbert J. Spoor, M.D., of the New York Medical College, New York City, find that the combination of 0.25% by weight of water-soluble sodium copper chlorophyllin and 99.75% of sodium propionate not only eliminates the malodor but potentiates the therapeutic action, especially the antipruritic effect. The contents of an envelope, 2.3 gm. of the powder, are dissolved in a 6-oz. glass of water for use as a wet dressing or mouth wash, or in 1 pt. for foot baths. Other appropriate concentrations are effective in various dermatologic, mucosal, and surgical lesions involving fungal or bacterial contamination.

Arch. Dermat. & Syph. 67:263-277, 1953.

The most common form of infant gastroenteritis is probably of viral origin.

Gastroenteritis in Infancy

E. HINDEN, M.D.
Whipps Cross Hospital, England

VOMITING and diarrhea are the typical symptoms of gastroenteritis, a formidable hazard for infants.

Four types are recognized: [1] the dietetic form caused by gross errors in feeding, [2] the parenteral, in which the condition is attributed to infection outside the food canal, common sites being the upper and lower respiratory tracts and the skin, [3] bacterial, for which the *Shigella* and *Salmonella* groups are the most common causative agents, and [4] the largest group, for which a virus seems the most likely agent.

The latter type is extremely contagious, and usually involves children of 3 to 6 months of age. The title gastroenteritis is appropriate for this form, believes E. Hinden, M.D., to distinguish the condition from dysentery or food poisoning.

PREVENTION

Breast feeding is the most important part of prevention. Good hygiene should be observed, particularly in feeding. Young babies should be kept with the mothers rather than in a large hospital ward.

DISEASE

Unless the attack is severe, the onset is gradual and is revealed by anorexia and weight loss even before severe vomiting and diarrhea appear. Treatment at this stage consists of two feedings of 5% glucose in normal saline, then half-strength feedings in the usual quantity for the rest of the twenty-four hours.

At times the condition worsens rapidly; the baby loses water and electrolytes and has acid-base balance disturbances. The fontanel and eyes become sunken. Skin turgor is lost. Urine output decreases. The loss of potassium produces lethargy and anorexia. Acidosis is common.

Relapses are the most dangerous feature.

TREATMENT

Parenteral fluids containing electrolytes and lactate, as an alkalizing agent, are used. In general practice, when rigid biochemical control is impossible, Hartmann's solution is the most practical. This contains to each liter of solution, 2.4 gm. of lactic acid, with enough caustic soda for neutralization, 6 gm. of salt, and 0.4 gm. each of potassium chloride and hydrated calcium chloride. If salt retention causes edema of hands and feet, a half-strength formula should be substituted.

The basic requirements for a baby are 2½ oz. per pound of

Gastro-enteritis. M. Press 5940:223-226, 1953.

healthy weight or 150 cc. per kilogram. A dehydrated baby needs an additional ounce per pound to compensate for losses. If the fluids are given subcutaneously, hyaluronidase aids absorption.

Feeding by mouth is resumed cautiously after twenty-four to thirty-six hours; ½ low-fat milk and ½ Hartmann's solution may be given in small quantities, alternating every two hours. After two days of this regime, normal feeding is gradually resumed. If vomiting starts again or diarrhea worsens, the feeding regime is moved back one stage. Occasionally, severe relapses necessitate prolonged intravenous feeding.

The baby is shocked and exhausted and must be kept warm and rested. A few drops of brandy, diluted 1 to 4, is a good stimulant. Sedatives are occasionally necessary. The baby should be well propped up with the pillows beneath the mattress. Any accompanying infection should be treated by the appropriate antibiotic.

Sometimes a blood or plasma transfusion will overcome anorexia. Amino acids may aid recovery.

Liver Function Tests in Infancy

DAVID YI-YUNG HSIA, M.D., AND SYDNEY S. GELLIS, M.D.

DETERMINATION of the serum bilirubin level is the most useful test in differentiating between the causes of jaundice in infancy.

David Yi-Yung Hsia, M.D., and Sydney S. Gellis, M.D., of Beth Israel Hospital and Harvard University, Boston, find that an equal elevation of both the direct and indirect bilirubin levels indicates an obstructive jaundice and eliminates the possibility of physiologic jaundice, erythroblastosis, hemolytic anemia, or sepsis. These conditions all cause elevation of the indirect bilirubin level primarily.

A high initial bilirubin level, from 10 to 30 mg. per 100 cc., suggests either inspissated bile from erythroblastosis or hepatitis. A low initial level, around 5 to 10 mg. per 100 cc., would indicate either biliary atresia or inspissated bile of unknown cause.

Serial bilirubin levels yield still more definite diagnostic information. A slow and steady upward trend of the level indicates biliary atresia. A rapid downward trend is typical of inspissated bile resulting from erythroblastosis or hepatitis. A tendency for the bilirubin level to fall slowly or be variable occurs with inspissated bile of unknown cause.

The alkaline phosphatase and various flocculation tests are of no aid in differentiating between the various causes of obstructive jaundice.

Prolonged obstructive jaundice in infancy. Am. J. Dis. Child. 85:13-19, 1953.

Sciatica may result from several causes but the nature and the distribution of the pain remain the same.

The Problem of Sciatica

BERNARD J. ALPERS, M.D.
Jefferson Medical College, Philadelphia

PAIN along the posterior aspects of the lower limb, so-called sciatica, is a symptom, not a disease.

Many conditions are capable of producing sciatica—diseases of the roots of origin of the sciatic trunk, or involvement of the peripheral portions of innervation to the leg. The reported incidence of herniated lumbar disk as a cause of sciatica varies from less than 20% to over 90%, the high percentages being reported from the selected cases seen in neurosurgical clinics and the lower figures from the large groups of sciatica patients treated in medical clinics.

The claim, often made, that a herniated disk can be diagnosed by typical signs and symptoms is questioned by Bernard J. Alpers, M.D., who calls attention to the many operations performed upon the basis of such diagnoses in which herniated disks are not found. Myelograms likewise cannot be depended upon to establish the diagnosis but are advisable in reducing the number of unnecessary explorations.

The typical patient with herniated disk usually has posterior thigh pain, with or without accompanying pain in the back. In many cases the pain is associated with exertion or injury and often starts when the back is flexed in bending or lifting. The leg pain may extend across the buttock alone, along the back and side of the thigh to the knee, or into the calf to the ankle or foot. The pain is constant, aggravated by movement and straining, such as coughing and sneezing, and usually relieved by recumbency. Paresthesias involving part of the sole or foot or the inner or outer side of the calf may also be noted. Foot or leg weakness is uncommon.

Examination reveals loss of normal lumbar lordosis, limitation of forward bending and often of lateral flexion, listing of the pelvis and frequently of the spine, spasm of the sacrospinalis muscles, positive Lasègue and straight leg-raising signs, tenderness over the sciatic trunk in the sciatic notch, and decreased or no Achilles reflex. Often no sensory changes are demonstrable.

A narrowed disk at the fourth or fifth lumbar vertebra is usually demonstrable in the conventional roentgenogram made of the lumbar spine.

For the greatest possible accuracy in the use of myelograms, the following conditions should be fulfilled: [1] the history and findings must be correct for herniated disk,

The neurological aspects of sciatica. M. Clin. North America 37:503-510, 1953.

[2] the defect must be at the anticipated level and must correlate with the physical findings, and [3] the defect must be seen in both anteroposterior and lateral views.

Low back pain is experienced in most cases of herniated lumbar disks and in some instances precedes the appearance of leg pain by up to five years. Low back pain alone may be assumed to be the result of herniated disk in cases of prolonged and persistent, or recurrent and stubborn, back pain for which no other mechanical cause can be found.

In most instances of herniated lumbar disk, medical treatment will eliminate symptoms. Recurrence is no greater after medical than after surgical therapy.

Medical measures consist of:

Complete bed rest with bed boards and firm mattresses, bathroom privileges being permitted only to patients who can walk without too great discomfort

Strontium salicylate, 1 gm. (15 gr.) three times daily after meals

Codeine sulfate, 32 mg. (½ gr.) by mouth as needed for pain

Infrared irradiation to the low back in the morning and over the buttock and sciatic notch at night

Short-wave diathermy daily

Hot tub bath before retiring

Curare, 40 units intramuscularly daily.

Operation in cases of sciatic pain is reserved for patients with recurrent attacks, patients who have had thorough trial of medical management, and patients with a severe first attack that fails to subside in two weeks of medical treatment.

The Tussive Syndrome and Epilepsy

DESMOND S. O'DOHERTY, M.D.

THE rare syndrome of fainting or vertigo, with or without convulsions, after paroxysms of coughing is known as tussive syncope and is commonly ascribed to faulty cerebral hemodynamics.

A form of symptomatic epilepsy is at least partly responsible, believes Desmond S. O'Doherty, M.D., of Georgetown University, Washington, D.C., who cites abnormal encephalograms in all of 5 recent cases affecting 4 elderly men and 1 woman. An additional factor is probably some form of cortical dysfunction.

The condition is usually associated with pulmonary emphysema and chronic bronchitis with cough. Pulmonary emphysema builds up intrathoracic pressure. The added stress of coughing impairs cardiac output and produces cerebral congestion and anoxia.

The affected group presumably also have hypersensitive vascular reflexes. The stimulus comes from vagal sensory end organs in the larynx or bronchi but may originate in the esophagus, so that syncope results from swallowing.

Tussive syncope and its relation to epilepsy. Neurology 3:16-21, 1953.

Alcohol block is effective and safe treatment for cord lesions when rhizotomy is not feasible.

Injections for Paraplegic Spasticity

STANLEY STELLAR, M.D.
New York University–Bellevue Medical Center, New York City

LESIONS of the spinal cord may be accompanied by spasticity more incapacitating than the original disease, because of involuntary violent muscular spasm, defecation, urination, and erection.

Anterior rhizotomy is an effective surgical approach to this problem, but if such a major operation is not feasible, subarachnoid alcohol block is a simple, safe, and adequate substitute, states Stanley Stellar, M.D.

The technic of injection is as follows:

The patient lies on the side on a Stryker frame, as for lumbar puncture. The mattress of the frame has a space at the patient's lumbar region.

An 18-gauge spinal needle is inserted at the second-third lumbar interspace, the beveled end pointed caudally. For repeat injections, the needle is inserted at a higher level, usually the ninth thoracic.

After 10 cc. of spinal fluid has been removed, the patient is turned to the supine position with the needle projecting down through the space in the mattress. The foot of the Stryker frame is elevated until the patient's body is at an angle of 45° from the floor.

A syringe containing 15 cc. of absolute alcohol is attached to the needle by a short length of rubber tubing. The patient is asked to report the type and location of any symptoms, such as paresthesias; then injection proceeds slowly and reactions are watched.

Usually the injection takes thirty to sixty seconds. Repeat injections amount to as much as 20 or 30 cc.

After injection, the patient's legs are straightened. The patient is left in the described position for about one hour. Transfer is then made to bed in a flat or Trendelenburg position for another few hours if desired. Most patients are in wheel chairs the next day.

Relief of spasticity is immediate and effective. Other results include loss of any residual voluntary motion; abolition of all reflexes including the pathologic plantar; significant assistance in the overcoming of contractures, so that physical therapy is more effective; slight or moderate hypotonicity of previously hypertonic bladders; elimination of sensationless involuntary erections; probable improvement of decubitus ulcers; and greater ease in handling a wheel chair.

Sensation is not affected. Genital

Subarachnoid injection of alcohol in treatment of spasticity in paraplegia. Arch. Neurol. & Psychiat. 69:343-349, 1953.

sensation, if absent before, is not regained. Previous constipation persists after the procedure. Sexual desire and fantasy are unchanged.

Patient satisfaction with the results is high.

Toxic side effects are slight or absent. Pain in the legs, headache, and vomiting and fever lasting a few days may occur. Transitory numbness, paresthesias, and weakness may appear within a few moments of the injection if the described procedure is not followed exactly, but these effects subside in about fifteen minutes.

Three basic conditions are important before injection is employed:

1] The spasticity must be severe enough to interfere with both the comfort and the care of the patient

2] The patient must have no residual motor function

3] The lesion must be stationary.

A possible complication of the procedure is phlebothrombosis developing in the leg because of the change from spasticity to flaccidity. Therefore, immediate physical therapy after the injection is important.

Low-Fat Diet for Multiple Sclerosis

ROY L. SWANK, M.D.

LIMITING the fat intake of patients with multiple sclerosis appears to reduce the frequency and severity of exacerbations.

Roy L. Swank, M.D., of McGill University, Montreal, believes that multiple sclerosis patients may have a basic defect in suspension ability of the blood which is upset by the hyperlipemia following high-fat meals. Patients are therefore instructed to take daily only 4 tsp., 20 cc., of hard fats—animal fats, margarine, lard, and shortening, including fats or oils used for cooking or baking—and 4 tsp. of vegetable oil or substitute. As far as possible the intake of fat should be evenly distributed throughout the day. All patients should consume 1 egg and 1 tsp., 5 cc., of cod-liver oil daily.

Results with such restriction for 47 patients have been observed for two to three and a half years or more. A large number of the subjects have been benefited. Before restriction of fat intake, the patients had an average of 1 exacerbation of the disease every ten to eleven months, whereas, while dieting, the average was 1 exacerbation every thirty months. In 13 of the total 40 exacerbations during low-fat therapy, the relapse could be traced to the patient ignoring the diet for several days to several weeks.

Severity of the attacks occurring while patients are dieting is less than before therapy. The diet seems more effective in early stages.

Treatment of multiple sclerosis with low-fat diet. Arch. Neurol. & Psychiat. 69:91-103, 1953.

Many facilities are now available for rehabilitation of the deaf and hard of hearing.

Rehabilitation with Hearing Defects

GEORGE E. SHAMBAUGH, JR., M.D.
Northwestern University, Chicago

GORDON D. HOOPLE, M.D.
New York State University, Syracuse

ARAM GLORIG, M.D.
Walter Reed General Hospital, Washington, D. C.

JACQUELINE KEASTER
Children's Hospital, Los Angeles

THE management of a deaf or hard of hearing patient is a cooperative venture involving the family doctor, otologist, special hearing clinics, psychologist, and audiologist.

Much can be done to enable such handicapped persons to find a place in society. Available facilities are reported by George E. Shambaugh, Jr., M.D., Gordon D. Hoople, M.D., Aram Glorig, M.D., and Jacqueline Keaster of the Subcommittee of the Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology.

The deaf child—Normally, a child begins to acquire language before the age of 2 years. Without speech, the complex processes of human thought cannot occur. Therefore, if a 2-year-old does not talk and does not respond when spoken to or called, the possibility of deafness must be entertained and strenuous efforts should be made to diagnose the condition and begin training.

Since the diagnosis of deafness may be difficult and is extremely important, an otologist should be consulted. Failure to learn speech may be caused by central brain damage or lack of response to sound because of an emotional block.

Among the remediable conditions which may cause deafness in a child are congenital absence or atresia of the ear canal, congenital fixation of the ossicular chain, and obstruction of the eustachian tube superimposed upon a congenital nerve loss of moderate degree.

However, in most cases profound hearing impairment of children results from irreversible nerve loss that cannot be improved or restored by any known treatment. In such cases, the family should be informed so that valuable time is not wasted in vain search for a medical miracle.

Guide for the general practitioner on the rehabilitation of the deaf. Tr. Am. Acad. Ophth. 57:207-211, 1953.

When an irremediable nerve loss is present, training must begin at once. This training is best done by the parents in the home. In many states, parents may receive courses of instructions on how to carry out this home training. If adequate help is not available locally, national organizations stand ready to help.

Such organizations include:

American Hearing Society, 817 Fourteenth St. N.W., Washington 5, D. C.

Volta Bureau, 1537 Thirty-fifth St. N.W., Washington 7, D. C.

John Tracy Clinic, 806 West Adams Blvd., Los Angeles. This organization publishes a correspondence course which will be sent free of charge to the parents of any deaf child below the age of 6.

Before the age of 4, the deaf child will benefit greatly from attending a nursery school for normally hearing children. After the age of 4, the child should go to a school specifically for deaf children, preferably a day school. If no day school is available, the child should be sent to a residential school, public or private, where the oral method is taught. Often preschool children can use a hearing aid with benefit.

Child with moderate loss—Routine hearing tests of all schoolchildren reveal many cases of moderate hearing impairment. Symptoms are vague and include failure to respond when called, seeming inattention in school, poor scholastic record, and faulty articulation.

A large proportion of moderate impairments can be remedied with correct treatment. Therefore, accurate diagnosis by an otologist is important.

A correctly fitted hearing aid will often be of great benefit after all else has been done to restore hearing medically or surgically. The child should have special training in use of the aid.

Speech correction by a special teacher should be available for the child with poor articulation. Speech reading—lip reading—also requires a special teacher and is essential.

The child with moderately impaired hearing who can use a hearing aid and has been trained in lip reading will, in general, do best in a class of normally hearing children. He should sit near the teacher and between the teacher and the window so that the light falls on the teacher's face.

Adult with moderate loss—As with children, accurate diagnosis is important for adults with any moderate impairment of hearing. Prompt and correct medical and surgical care will be of benefit in most cases.

Prophylactic therapy will help prevent occupational noise deafness. Noise-susceptible individuals may be found by periodic hearing tests. Ear protectors should be used and all possible steps taken to reduce noise levels.

Airplane rides cannot restore hearing in organic deafness.

Hearing aids and speech reading are the main rehabilitation measures. Special training with both of these modalities is available and should be employed.

Adult with profound loss—As in children, profound deafness in adults is generally of the nerve type for which no medical treatment is available. An accurate diagnosis is important, however, since otosclerosis, psychogenic deafness, and Ménière's disease are often amenable to therapy.

A hearing aid should be employed whenever possible. Special training may be needed. Regular lessons in speech reading should be taken in most cases.

Electrical Shock and Drowning

KEITH BOWDEN

PROMPT, careful treatment is needed for electric shock victims. If the person is still in contact with the conductor, the current must be switched off or the circuit broken. If this cannot be done, the rescuer should stand on insulating material if possible, such as linoleum, a thick rug, or rubber mat, to move the victim, who must not be grasped with bare hands. Dry clothing may be wrapped around the rescuer's hands or the foot, or a piece of wood or broom may be used to push the patient from the current.

The patient who has ceased breathing or has no detectable heart beat is not necessarily dead. If breathing has stopped, artificial respiration is instituted immediately and continued until breathing starts or death is certain. Keith Bowden of Melbourne, Australia, recommends that artificial resuscitation be continued as long as four hours.

Ventricular fibrillation may occur and should be treated by cardiac massage, use of an electric defibrillating apparatus, or intracardiac novocain. General supportive measures for shock as well as specific therapy for burns may be necessary.

Because the respiratory tract of a drowned person is full of frothy fluid, artificial respiration is useless until a clear adequate airway is established. The patient should be carried from the water face downward, with the head lower than the feet, and given a vigorous shake in the long axis of the body. With the patient in the prone position lifting the trunk off the ground may aid in draining the air passages. Ideally, fluid and debris are removed through an inserted bronchoscope or endotracheal tube and air is then introduced mechanically, but these means are usually not available.

The patient's tongue should be pulled forward and the pharynx examined for foreign matter. Artificial respiration is then instituted and continued until breathing or death ensues.

Electrical and drowning accidents: treatment. M. J. Australia 1:600-603, 1953.

Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Herniated Nucleus Pulposus Operations*

QUESTION: Should fusion be combined with excision of herniated disks?

Comment invited from
Walter G. Haynes, M.D.
Floyd H. Bragdon, M.D.
Donald W. Blanche, M.D.
Abraham Kaplan, M.D.
Ralph A. Munslow, M.D.
H. Earle Conwell, M.D.
Charles J. Lemmon, Jr., M.D.
Charles Rumbold, M.D.

► TO THE EDITORS: The debatable question of the combination of spinal fusion at the time of excision of herniated disks is not simple. Dr. William Nachlas has noted that "the difference is not spectacular, and on a statistical basis is of borderline significance."

It would seem, and we have followed these tenets in our treatment of herniated disks, that the known morbidity and percentage of failure in spinal fusion alone should not be combined, initially, with the known percentage of failure of disk surgery. To fuse a spine merely because a disk has been removed is not tenable, since between 80 and 90% of all simple disk removals give a satisfactory result. This would mean that in fusing 10 spines, 8 of these would not need fusion. There is a lack of fusion of near 10% in the best of hands. Thus, the roughly 10% disk failures plus 10% failures of fusion would give a 20% opportunity for failure of the combined operation.

The morbidity of the combined operations is well known. The loss of time from work is a strong economic factor. Simple disk operation patients are ambulatory and discharged from the hospital in about six days whereas combined operation patients are discharged from the hospital in two weeks but cannot return to work for three to six months. Newer technics of fusion might shorten this time and might also lessen the morbidity.

There are undoubtedly patients with unstable spines and spondylolisthesis which should be fused at the time the disk is removed. Other patients, however, should be allowed to give simple disk excision a trial to determine whether a fusion might be indicated later.

A series of combined disk removal and fusion in approximately 150 cases and a total series of 800 ruptured lumbar disks is in the process of being examined at the present time. As a result of these

*MODERN MEDICINE, Feb. 15, 1953, p. 124.

experiences, I remove the ruptured disk initially, unless instability or spondylolisthesis is demonstrated preoperatively. If demonstrated, the combined operation is performed. If not, spinal fusion is delayed until proved necessary. In other words, the fusion is made to stand on its own merits.

WALTER G. HAYNES, M.D.
Birmingham

► TO THE EDITORS: I am in agreement with the opinion of Dr. William Nachlas that spinal fusion is not indicated in simple cases of herniation of the nucleus pulposus. The operation is performed for relief of root compression. When instability of the spine is demonstrated at the operating table or before, spinal fusion is combined with excision of the disk, but only in a relatively few cases.

Reports during the past few years concerning the results of operation for herniation or protrusion of lumbar intervertebral disks have been numerous and somewhat divergent. Between 1940 and 1950 we operated on 519 consecutive patients presenting subjective and objective evidence of lumbar spinal root compression. The male to female ratio was almost 4 to 1. Ages ranged from 20 to 63 years, but 70% of patients were under 50.

Results were classified as:

1] Patients relatively free of complaints and able to resume former activities and occupations

2] Patients with some residual or periodic backache or leg pain but able to resume former activities or, in some instances, lighter work

3] Patients unable to return to work or with persistent or recurrent backache or leg pain. Several of these patients were subsequently rehabilitated by spinal fusion for instability of the spine.

On the basis of follow-up examinations, 392, or 75%, were believed free of complaints and able to do regular work; an additional 20% had some sequelae but were able to work; about 4% were unimproved.

Ruptured disks requiring a second operation occurred 20 times. Most recurrences appeared at the original site, although several were on the opposite side at the same interspace and may have been accentuated by operation. Several occurred at other than the original interspace and may have represented separate lesions, but all were included as recurrences. The time interval varied from one week to five years.

One patient had the condition recur twice, with a total of 3 operations, but has been asymptomatic the past six years without restriction of physical activity.

FLOYD H. BRAGDON, M.D.
Pittsburgh

► TO THE EDITORS: After a ruptured disk has been removed, the function of that unit of the spine is permanently impaired. The disk space may collapse, bony surfaces of the adjacent vertebrae develop eburnation and spurring, and the apophyseal joints become distorted.

Roentgenograms of patients who have had simple removal of a ruptured disk frequently show progressive narrowing of the disk space, and many of these patients complain of backache. The only logical treatment is surgically to fuse the vertebrae adjacent to the space from which the ruptured disk was removed, to prevent the development or persistence of symptoms caused by mechanical joint derangement.

The small disk protrusions seen at surgery or the so-called "concealed disks," which are in reality degenerations, are only part of an unstable spinal segment. The essential part of the operation in these cases is fusion, and it is debatable whether removal of the disk is necessary. The patient who has had repeated episodes before surgery may suffer from mechanical joint derangement as well as direct root compression, and if the operation is confined to removal of the ruptured disk, he may be relieved of his sciatic pain. However, nothing has been done to correct the ligamentous strain which is the cause of deep pain, and the patient will still be disabled by a lame back.

Some surgeons are so impressed by the patient's immediate postoperative relief that late results or evidences of a mechanically weak and painful back are not seen. We must do all we can to insure that the operation will give as nearly complete and permanent cure as possible.

At best, the percentage of success in large series is disappointing, and the results of secondary operations are even worse. To improve results, we must first be accurate in diagnosis and be certain that surgery is indicated; then, the operating surgeon must do his best to make the primary operation a success by performing the combined procedure of removal of the herniated disk followed by fusion of the affected segment.

DONALD W. BLANCHE, M.D.
Los Angeles

► TO THE EDITORS: The symptoms and signs of a herniated intervertebral lumbar disk are dependent upon the size and degree of disk protrusion affecting the adjacent nerve root. In turn, intervertebral disk herniation may produce nerve root irritation, nerve compression, paresis, or, in some cases, even paralysis.

The clinical result will, therefore, depend upon the timely and complete removal of the protruding cartilage with generous decompression of the nerve root. Spinal fusion, irrespective of type, length, or thoroughness, cannot compensate for inadequate or incomplete disk surgery or prevent recurrence of symptoms.

Persistent or recurrent symptoms following disk surgery may be caused by [1] incomplete removal of degenerated disk material which subsequently herniates, [2] failure in finding the disk protrusion, [3] operating at the wrong interspace, [4] exploring the wrong side in the absence of myelography, [5] not recognizing more than one disk protrusion, [6] undue nerve root

trauma, and [7] inadequate nerve root decompression.

In over 500 cases of laminectomy for herniated intervertebral disk, only 2 instances of bona fide unstable lumbar spines were encountered. Proper disk surgery does not add to lumbar spine instability.

The indications of spinal fusion following disk operation are still problematic and optional. However, there are several disadvantages in combining spinal fusion with disk surgery: [1] prolongation of the operation by an hour or more; [2] need for blood transfusion; [3] extended hospital stay by four to six weeks; [4] longer convalescing period of two to six months; and [5] delay of six to twelve months in return to full duty.

In brief I agree that spinal fusion after removal of a herniated intervertebral lumbar disk is seldom necessary, is an added operation, and may wisely be postponed.

ABRAHAM KAPLAN, M.D.
New York City

► TO THE EDITORS: Surgical removal of a protruded intervertebral disk is accomplished as a combined procedure with both an orthopedist and neurosurgeon participating. In personal experience with approximately 100 operative cases, about 15 to 20% were fused primarily.

As a general rule, fusion was reserved for persons doing arduous labor, such as oil field workers, and for individuals with congenital anomalies in the lumbosacral area.

We perform simple root decompression by removal of the herniated disk and ambulate the patient early. Most patients spend no more than a week in the hospital postoperatively. Three weeks is the usual postoperative period after fusion.

RALPH A. MUNSLOW, M.D.
San Antonio

► TO THE EDITORS: To the question of combining spinal fusion with excision of a herniated disk, my answer is no, certainly not in every case by any means or even in the majority of cases. My judgment is substantiated by the report of the research committee of the American Orthopaedic Association as well as by my own experience. My opinion of the committee's conclusion is that they do not approve of spinal fusion and disk excision in the majority of cases.

Many cases of herniated disk have specific symptoms. Physical and radiologic examinations can positively indicate that removal of the herniated disk is the only definite operative procedure to be done. At the same time, a definite differential diagnosis can be made that spinal fusion is not necessary.

The surgeon with itching scalpel fingers should remember that the scalpel is used only as an aid to nature and that nature cannot be expected to repair damage from unskillful employment of the instrument. Good surgical judgment is demonstrated by knowing when not to use the scalpel as well as when to use it.

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Many people today are compensating for low back disability that is far less disabling than that which not infrequently results from unjustified spinal fusions. In contrast to this, many patients have had specific definite diagnosis and operative removal of the herniated disk, in most instances with good results, whereas, had spinal fusion been done at the same time, more disability would have resulted from the unnecessary surgery.

H. EARLE CONWELL, M.D.
Birmingham

► TO THE EDITORS: When a patient has a typical lumbar disk syndrome with sciatica and a positive myelogram, he has pressure on a lumbar nerve root. Removal of the pressure from the nerve root will relieve the sciatica. Spinal fusion is unnecessary.

The same process occurs in the patient's cervical region. The pain in the shoulder and down the arm is relieved by removal of the pressure from the cervical nerve root. I do not believe that fusion in the cervical region has been advocated when the disks are removed.

After operation the patients may get up any time they feel like it. The hospital stay is about ten days and, so far as I know, none of the patients has later come to spinal fusion.

In some cases the patients complained only of leg pain and had been studied for a lesion in the lower extremity. Only on careful questioning was it brought out that some backache was present in the beginning of the trouble. When the disks were removed, the leg difficulty was corrected and there was no backache.

Myelograms are done on all cases with the operating surgeon in attendance to verify the exact location and to rule out other pathology. Rarely is operation done unless the examination and the myelogram are in agreement. The exact nerve root involved is ascertained, so that operative trauma to the back structures is minimal. Should the patient have backache after disk removal, his back should be studied by an orthopedic surgeon, who may find an indication for spinal fusion.

Patients who have had frank disk protrusions removed have had no trouble afterward. Those who did not have definite nerve root pressure were suffering from other causes and were not relieved by operation. The whole question apparently revolves around accurate diagnosis. For disk protrusion with nerve root pressure, simple removal of the offending impingement is the operation of choice.

CHARLES J. LEMMON, JR., M.D.
Columbia, S. C.

► TO THE EDITORS: All statistics mean all things to all people. Those used in the Nachlas report of herniated disk operations could have been the basis of very different conclusions than those formulated.

Analysis of the tables in the report indicates that 11% of the disk excision cases required subsequent reoperation for disk excision, while

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only 1.7% of the disk excision with fusion cases required reoperation for disk excision. These percentages give a mean advantage of 9.3% to the combined operation which was not accredited in the report.

Of the excision cases, 9% had sufficient residual complaint to require fusion which should have been done when the disk was excised. This item was not included to the credit of the combined operation. Of the combined operations, 9.67% more were successful than with excision only. This was the only percentage advantage noted in the survey. The total advantage in favor of the combined operation then is 27.97% instead of 9.67%.

An additional hidden factor in the combined operation statistics which was mentioned but not emphasized in the report is that a fusion operation does not necessarily mean the vertebrae eventually fused.

If the statistics of the combined operation were broken down into two groups, those proved fused and those proved unfused, an additional 27% advantage would have accrued to the fused group. This we demonstrated in a survey in 1948 in the *Journal of the Kansas Medical Society*.

The results of the survey seem to us to prove the advisability of fusion at the time of excision of the disk. Our own survey indicates the necessity of continuing our efforts to improve the technic of fusion. The Nachlas survey can be interpreted as a criticism of the technic of fusion but not as adverse criticism of the practice of fusion at the time of disk excision.

Since no essential functional loss results from the fusion of the last two joints in the spine, since the failure of the fusion operation does not compound the symptoms, and since 27.9% of the cases covered in the report obtained better results when the combined operation was performed than with excision only, it is our opinion that the combined operation is definitely the one of choice.

CHARLES RUMBOLD, M.D.
Wichita

Retrolental Fibroplasia and Prematurity*

QUESTION: Is overloading the circulation with fluids and transfusions the basic cause of retrolental fibroplasia in premature babies?

Comment invited from
Joseph M. Dixon, M.D.
William E. Laupus, M.D.
Ernst Wolff, M.D.
Frederick C. Blodi, M.D.

► TO THE EDITORS: The findings by Drs. W. R. Hepner, Jr., and Arlington C. Krause represent an important addition to our meager knowledge of the etiology of retrolental fibroplasia.

The earliest changes in retrolental fibroplasia consist of dilatation and congestion of the retinal blood vessels seen clinically. A few premature babies have died during the early stage of these lesions and postmortem examination of the eyes

*MODERN MEDICINE, Feb. 15, 1953, p. 101.

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has shown active proliferation of the retinal capillaries within the retina as well as through the internal limiting membrane and out into the vitreous. The capillary endothelial cells were proliferating most actively to form clumps or nests, and the growth of the cells seemed to be in excess of the growth required simply to form new vessels.

We would certainly like to know whether the growing new vessels produce congestion and dilatation or whether the congestion appears first and the proliferating new vessels are a result.

Our knowledge of new vessel formation in other conditions such as retinitis proliferans in diabetes or the primary repair of wounds in healthy tissues in other parts of the body indicates that such action is the normal body response in the repair of tissue damage from any cause. In the delicate immature tissues of the premature baby this response is much more active. These same nests of budding capillary endothelial cells have been seen in the retina of a child with nematode endophthalmitis, and in adults the retinal vessels will grow into the vitreous from the ora serrata in retinal detachments of long standing.

This leads to the conclusion that any condition causing congestion and dilatation of the retinal vessels with damage to the delicate fetal retina of the premature baby might cause the active response we know as retrolental fibroplasia. The precipitating causes might well be transfusions, high electrolyte feedings, anoxia, or sudden changes in the blood oxygen content.

Armchair opinions prove nothing. They can only furnish material to work on. Only through carefully controlled clinical and laboratory studies such as those of Drs. Hepner and Krause will our questions be answered.

JOSEPH M. DIXON, M.D.
Birmingham

► TO THE EDITORS: The extreme degree of prematurity of infants with retrolental fibroplasia has led many to postulate physiologic immaturity as a necessary prerequisite for the development of this disease. Because most observers have found that the ocular changes begin several weeks after birth, the search for the etiologic factors in the postnatal period has occupied the attention of all interested in this problem.

The authors, in implicating high-electrolyte feedings, have added another to the growing list of postnatal possibilities in the causation of this disease. Furthermore, if their suspicions are confirmed, serious criticism of a widely accepted present-day feeding management for these infants will be justified and many of the old arguments between the advocates of modified cow's milk and those who favor human milk feedings will have to be reopened. At present, however, in view of the great variability in both incidence and degree of ocular involvement in this disease, caution seems advisable before abandoning the obvious advantages

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of artificial feeding mixtures for premature infants.

Many students of this disease consider excessive and prolonged use of oxygen to be a more promising etiologic suspect than high-electrolyte feedings. Studies varying the concentration of oxygen and the duration of its use are underway in several institutions. Preliminary information suggests that reducing exposure to oxygen may be associated with an incidence lower than that obtained by the authors with low-electrolyte feedings.

At present, the great need in retrolental fibroplasia research is for carefully planned studies designed to limit the variable between the study and control groups to the single factor under consideration. Only through such studies can such suspected etiologic agents as high-electrolyte feedings and oxygen be properly evaluated.

WILLIAM E. LAUPUS, M.D.
Detroit

► TO THE EDITORS: The paper of Drs. Hepner and Krause suggesting the theory of "unbiologic" large intake or injection of electrolytes for prematures as a cause of retrolental fibroplasia sounds very convincing. The reasoning is logical and eye findings give conclusive evidence.

Mother's milk as a feeding low in electrolytes appears again as the only correct and physiologic feeding. Therefore, we need a systematic storing of breast milk for small prematures. In addition, clinical research is necessary to find cow's milk formulas which are breast-milk adapted. Some proportion of whey as carrier of the electrolytes could be removed as was done in Finkelstein's protein milk previously.

ERNST WOLFF, M.D.
San Francisco

► TO THE EDITORS: Drs. Hepner and Krause have opened a new approach to the great problem of retrolental fibroplasia. So far, all efforts to investigate the etiology of this important disease have met with complete failure. Any new attempt to solve this riddle means another step forward. However, careful evaluation is necessary even if the solution sounds as reasonable and physiologic as the one proposed by the authors.

Drs. Hepner and Krause start from the assumption that the first change in retrolental fibroplasia is a retinal edema which could be influenced by a low-sodium diet. We could show that the earliest pathologic alterations consist of a proliferation of vascular endothelial cells with gliosis (*Am. J. Ophth.* 35:1407, 1952). Edema comes much later and is a secondary, complicating feature. Severe experimental edema of the retina does not resemble early retrolental fibroplasia in any point.

In an unpublished survey on the postnatal factors of 174 affected infants, we found that 21 had been reared on breast milk alone up to the age of 8 weeks, and 36 had been reared on breast milk occa-

sionally supplemented with formula. This led us to conclude that breast milk will not prevent the disease and we cannot, therefore, follow the authors' conclusions. In addition, I found the incidence of the disease, at least in its mild form, higher in Iowa City, where breast milk is used, than in New York City, where only formula is given.

In a study on the incidence of retrolental fibroplasia, we found no statistical difference between the number and frequency of blood transfusions given to infants who developed the disease and the number and frequency of blood transfusions given to normal infants (*Arch. Ophth.* 48:698, 1952). We also found spontaneous changes in the incidence of retrolental fibroplasia from year to year under identical postnatal conditions. Any therapeutic evaluation has, therefore, to be done on an alternating series.

We found that ACTH is of no value in the treatment of this disease (*Arch. Ophth.* 47:551, 1952), and we cannot follow the authors' reasoning as to the possible beneficial diuretic effect of this hormone.

FREDERICK C. BLODI, M.D.
Iowa City

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1. Heimer, C. B., Grayzel, H. G. and Kramer, B.: Archives of Pediat. 68:382, 1951.
2. Behrman, H. T., Combes, F. C., Bobroff, A. and Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.

LATE REPORTS *from Medical Centers*

★ UNIVERSITY OF WISCONSIN, Madison--Cortisone inhibits formation of nonmalignant skin tumors induced in mice by carcinogenic chemicals. The hormone was effective whether fed to the animals or applied to the site of irritation. Drs. R. K. Boutwell and Harold P. Rusch observed the opposite results with cancer. When bits of malignant tumor were grafted from one species of animal to another, cortisone apparently lowered resistance of the host to foreign tissue and enabled the transplant to grow.

★ NEW YORK UNIVERSITY, New York City--Warfarin, a powerful anticoagulant developed as a rat poison, is remarkably satisfactory for human therapy. The agent is more effective than other coumarin compounds because of faster, more prolonged action and rapid neutralization by vitamin K, believes Dr. Shepard Shapiro.

★ UNIVERSITY OF MINNESOTA, Minneapolis--People may be infected by Brucella abortus, strain 19, a form widely employed for immunization of cattle. The first known human cases in Minnesota are reported by Drs. Wesley W. Spink and Hugh Thompson in 2 veterinarians. Although 1 patient had bacteremia and was quite ill, both recovered promptly with antibiotic therapy.

★ UNIVERSITY OF CALIFORNIA, Los Angeles--A fatty substance from the small intestine of mice and rats destroys some types of malignant cells, possibly explaining why cancer is rare in the small bowel, reports Dr. Leslie R. Bennett. The compound killed mouse cancer in vitro and slightly damaged blood-forming cells, but most healthy tissues were unharmed.

* STANFORD UNIVERSITY, Palo Alto, Calif.--A pituitary hormone, AGF, increases adrenal growth and stimulates response to ACTH. Dr. Arthur P. Rinfret prepared the adrenal growth factor from horse pituitaries and observed effects in rats and guinea pigs. In treatment of patients at the University of California, San Francisco, Dr. Grant Liddle and associates tripled potency of ACTH by a five-day course of AGF.

* UNIVERSITY OF CALIFORNIA, Los Angeles--Radioactive strontium, a fission product of atom bomb explosion, may be absorbed from contaminated soil in dangerous amounts by such vegetables as radishes, beans, carrots, and lettuce. Plants were grown in artificially activated soil and analyzed by Dr. J. W. Neel and associates. Rate of uptake was influenced by quantity and type of clay in the soil. Radioactive cesium, ruthenium, cerium, and yttrium were not absorbed to degrees involving serious hazard.

* UNIVERSITY OF MINNESOTA, Minneapolis--Pneumococcal pneumonia developed in 11 of 58 persons with multiple myeloma, more than 1 episode in 9 cases and 3 or more in 6. In 2 instances, types III and XIII were fatal. Drs. Horace Zinneman and Wendell H. Hall noted high gamma globulin in all individuals examined. Administration of types I and II pneumococcus polysaccharide for immunization produced no specific antibodies.

* UNIVERSITY OF WISCONSIN, Madison--Eosinophils indicate the pattern of daily stress in animals and human beings, since the count falls with increase of adrenal cortical hormones. Mice have lower values in cold than in comfortable temperatures, find Drs. R. K. Meyer and John T. Emlen. Levels are high during the day, when mice naturally rest, just as human adult values rise at night.

Doctor to Doctor

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A. D. Waroshill, M.D.
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That's why it's so easy to control pressure with Tensor. Tensor, as the photo shows, is *twice* as elastic as old-style bandage—stretches farther and snaps back *all the way*. And no wonder—Tensor is woven with live rubber threads—not just cotton.

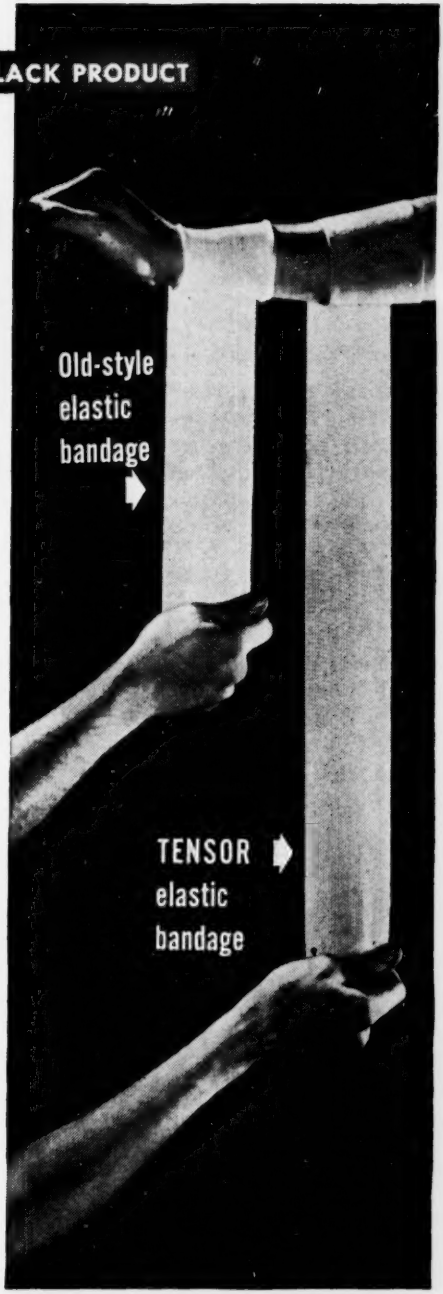
With Tensor you apply *low* pressure as easily as higher pressure.

You get *uniform* pressure over all bandaged areas.

There's less danger of hyperconstriction of blood vessels—more comfort, more mobility for the patient.

And you don't have to adjust Tensor as swelling goes up or down—it adjusts itself.

You, doctor, not the bandage, control the pressure—when it's Tensor.



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Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-244

THE CLUE

ATTENDING M.D: Do you remember the 20-year-old engineering student we saw last week?

VISITING M.D: You mean the one with a tentative diagnosis of encephalitis? Yes, as I recall, he had been well until about one week before admission and then had headaches every day.

ATTENDING M.D: That's right. Weakness and daily headaches for six days. Then vertigo, near syncope, and Jacksonian twitching of the right arm and hand. When you saw him last week, he was febrile and stuporous but displayed no localizing signs. Well, anyway, something new has now been added. Today we find enlarged posterior cervical nodes and splenomegaly.

PART II

VISITING M.D: Most interesting and certainly an unexpected development in a neurologic problem case. Would you mind reviewing the physical and neurologic findings again?

ATTENDING M.D: On entry to the hospital, the physical examination revealed only follicular tonsillitis, which was apparently not streptococcal or acute as the temperature was normal and no tender cervical nodes were found. Neurologic examination was unrevealing. The next day, as you recall, while walking in his room, he fell to the floor and was found incontinent, comatose, and with generalized hyperactive reflexes.

VISITING M.D: Yes, you then checked blood sugar and calcium and found both normal. Spinal tap revealed clear fluid, pressure and dynamics normal, cells not in-

creased, but protein 158 mg. per cent. Right?

ATTENDING M.D: The spinal fluid protein was 178 mg. per cent; chlorides and sugar were normal. He remained semicomatose for two days, then gradually became clear mentally. Neurologic findings at this point included pronounced nuchal rigidity, positive Kernig's sign, positive Brudzinski's sign, hyperactive reflexes on the right, and restlessness.

PART III

VISITING M.D: The picture at that point was certainly confused and I recommended a neurosurgical consultation. What was the neurosurgeon's opinion?

ATTENDING M.D: He was frankly unable to narrow our diagnostic horizon but was willing to try a ventriculogram. I think he favored a diagnosis of brain abscess. The patient had a slight fever from the second day on.

VISITING M.D: Lymphadenopathy and splenomegaly, of course, suggest blood dyscrasia, but wasn't the blood count normal?

ATTENDING M.D: On admission, yes. The white count was a little low, 4,500, but with a normal differential. Hemoglobin, 15 gm. And, by the way, urine, blood urea nitrogen, and syphilis reactions were negative. However, after I felt the patient's spleen, a second blood count was done. The white count was 14,000 with a preponderance of lymphocytes, 68%.

VISITING M.D: Did you look at the blood smear?

ATTENDING M.D: Yes, and many of the lymphocytes appeared abnormal.

VISITING M.D: What do you mean?

ATTENDING M.D: I think the patient has acute leukemia with central nervous system involvement. The lymphocytes were very immature in appearance—many nucleoli. I don't have a bone marrow report yet.

VISITING M.D: Before doing a bone marrow aspiration, let's consider some more pleasant and, maybe, more probable possibilities. We have two major things to tie together here. One, the central nervous system findings, which are definite, and, two, the enlarged spleen and lymph nodes. This man pretty definitely has an acute illness, and the fever, rapid appearance of new signs and

"I made a mistake when I told him he could pay by the quarter. I thought he understood every three months."

symptoms, and absence of anemia or evidence of hemorrhagic tendencies would make me favor infection rather than acute leukemia. Moreover, central nervous system involvement is more commonly seen with chronic leukemias, not acute.

ATTENDING M.D: But what about the immature lymphocytes?

VISITING M.D: I would like to see the slide, but your description is not too far removed from that of Downey's Type III lymphocytes. In the meanwhile, request a heterophil titer.

PART IV

ATTENDING M.D: *(Next day)* Well, you were right again. The heterophil titer was positive through 1:1,280 dilution. He is still febrile but clearing mentally. What made you think of infectious mononucleosis?

VISITING M.D: The diagnosis is not farfetched if one realizes that infectious mononucleosis can cause prominent central nervous system symptoms and, moreover, can occasionally present as a neurologic problem only to develop more typical findings later.

ATTENDING M.D: Were the spinal fluid findings typical?

VISITING M.D: Not enough cases have been described to be able to say what is typical, but protein is quite frequently elevated while pleocytosis, lymphocytes predominantly, will usually occur at some stage. Once the more usual physical signs and atypical lymphocytes appear, the diagnosis should be easy. The tip-off we missed in this case was the sore throat.

"I knew you wouldn't object to a consultation, Doctor, so . . ."

on every count SUPERIOR

Each 0.6 cc. of Poly-Vi-Sol supplies:

Vitamin A	5000 units
Vitamin D	1000 units
Ascorbic acid	50 mg.
Thiamine	1 mg.
Riboflavin	0.8 mg.
Niacinamide	6 mg.

When a supplement containing just vitamins A, D and C is desired, specify Tri-Vi-Sol . . . also superior in patient acceptability, convenience and stability.

Superior flavor

Pleasant tasting. No disagreeable aftertaste. Readily accepted without coaxing.

Superior miscibility

Disperses readily in formula, fruit juice or water. Mixes well with cereals, puddings or strained fruits.

Superior convenience

Light, clear and non-sticky . . . can be accurately measured and easily administered. No mixing necessary . . . in ready-to-use form.

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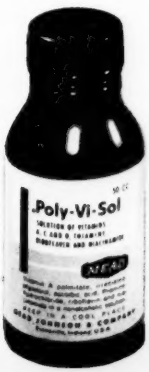
Requires no refrigeration. May safely be autoclaved with the formula.



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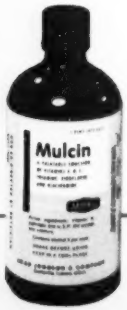
It's the taste of Mulcin that all children like . . . the refreshing flavor of real orange. It's the ready acceptance of Mulcin that all mothers appreciate . . . no more need to coax or bribe even finicky children.

The light, smooth texture of this vitamin emulsion makes pouring easy. And Mulcin needs no refrigeration; even at room temperature its potency is assured.

Each teaspoon of MULCIN supplies:

Vitamin A	3000 units
Vitamin D	1000 units
Ascorbic acid	50 mg.
Thiamine	1 mg.
Riboflavin	1.2 mg
Niacinamide	8 mg.

Available in 4 oz. and economical 16 oz. bottles.



Mulcin

MEAD

MEAD JOHNSON & COMPANY
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. . . a medical Odyssey

Views and comments of physicians who have been visitors recently to foreign countries are welcomed for publication in this department.

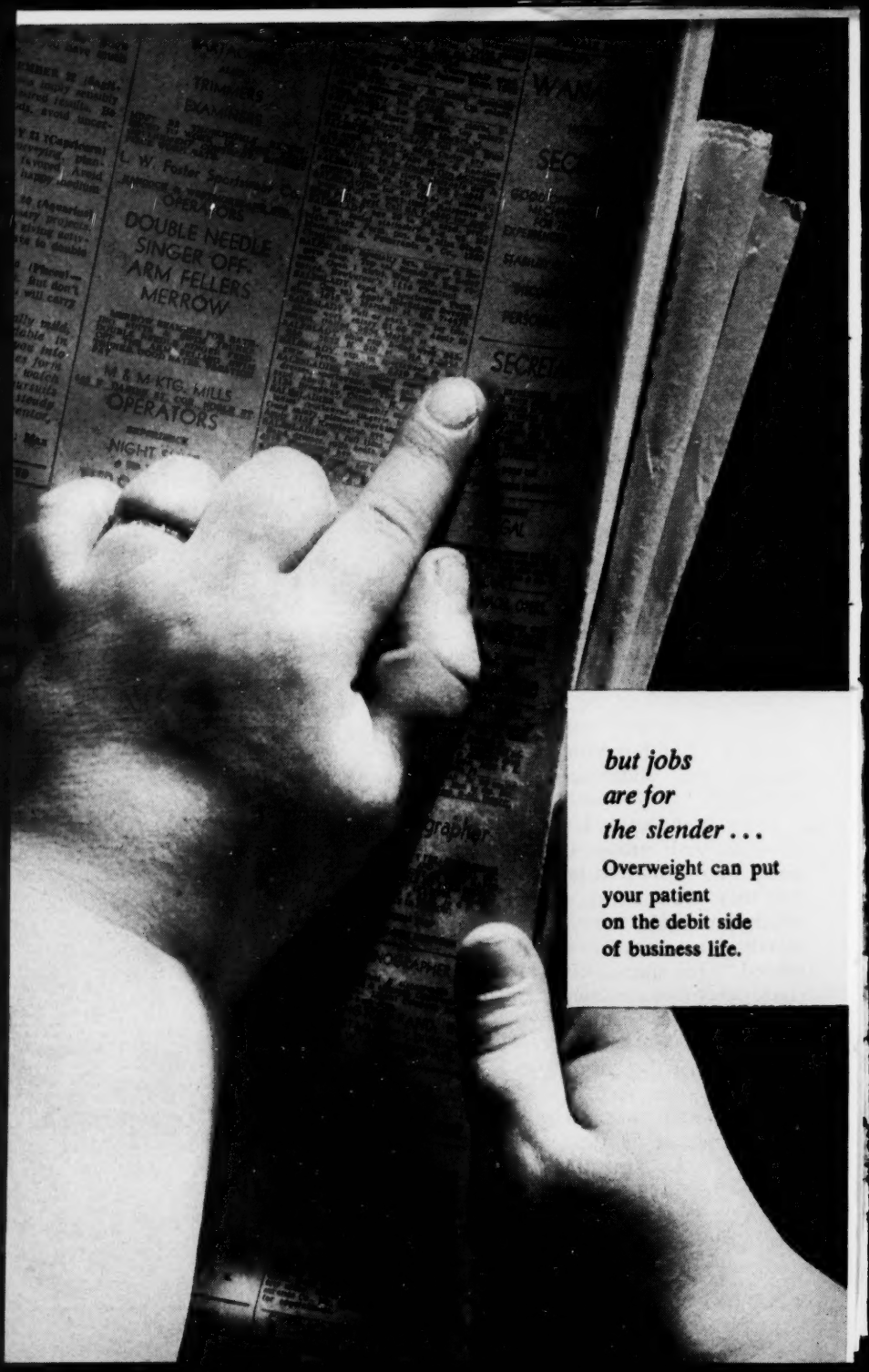
London Last Summer

TO THE EDITORS: It was the writer's privilege to attend and be on the program of the Tenth International Congress of Dermatology held in London last summer. As Dr. M. B. Sulzberger recently stated, "Unanimity of opinion is notoriously rare among physicians, but we believe that few who attended the Congress will fail to agree as to its success. In the face of even more than the usual difficulties, the British sponsors produced a smooth-running, well-organized and altogether splendid meeting."

Most of the time, I was among a specialized group (dermatologists) who seemed to be doing the best they could under a system in which some said, "there is too much socialization—they have been outmoded." The specialists or hospital consultants fare considerably better financially than general physicians.

The Collings Report of 1950 disclosed that the "overall state of general practice is bad and deteriorating" and "there has been a marked decline in the morale of general practitioners." The apparent ideal of providing family physicians has not been achieved. Hospital planning has rather ignored

(Continued on page 136)



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Overweight can put your patient on the debit side of business life.

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*Methylcellulose Wafers**

Sooner or later awareness of their handicap compels the obese to seek your help, and you can help them lose weight—the more comfortable way—by suggesting 'Melozets.'

Patients enjoy eating 'Melozets.' These delicious wafers blunt the appetite by providing a sense of satisfying fullness. They look and taste like graham crackers, and can be made an unobtrusive part of any dietary regimen.

Each 'Melozets' wafer contains 1.5 Gm. of methylcellulose, and is equivalent to approximately 30 calories. One or two 'Melozets' followed by a full glass of liquid may be taken between meals or one-half hour before meals. Not more than 8 'Melozets' should be taken in a 24-hour period. 'Melozets' are available from pharmacists in half-pound boxes of about 25 wafers.

42 different 'Melozets' reducing menus on a handy diet sheet—a note on your prescription blank will bring a pad of diet sheets and a sample of 'Melozets.' Address: Professional Service Dept., Sharp & Dohme, West Point, Pa.

*Patent applied for

SHARP & DOHME

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the general man and his problems. The volume of work being done by many physicians is too great to be compatible with the best results. It appears that the present health service is extremely static, with no provision for the time to come. Preventive medicine of every kind is virtually neglected.

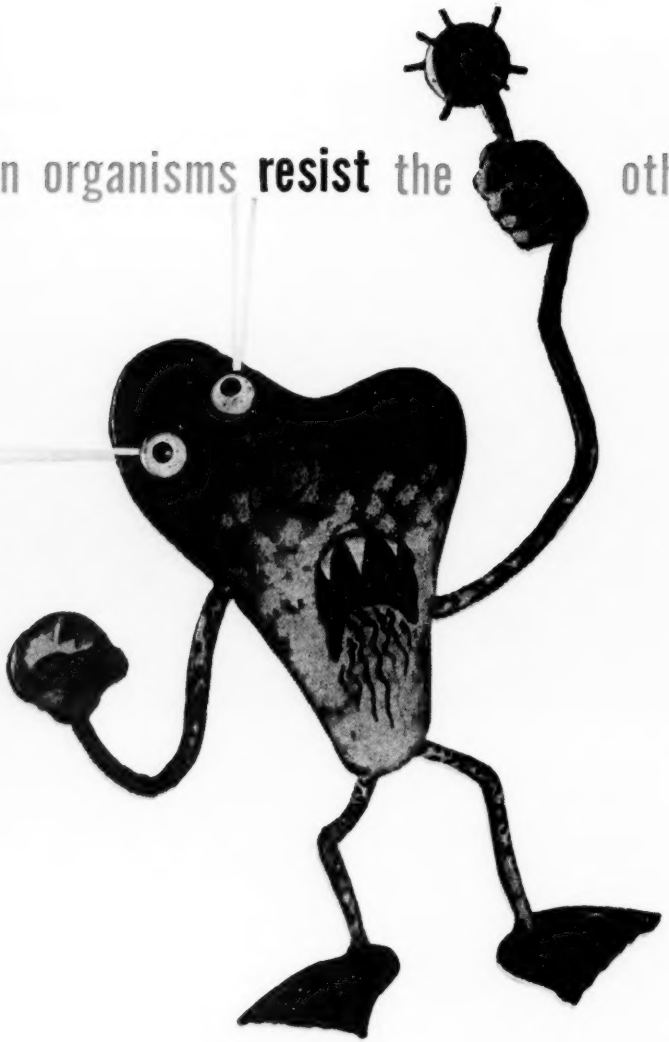
As is well known, care of health under such a scheme is more of politics than ideology, although it is desirable to make the care of the sick within reach of all who need it. Of course, the afflicted one must help himself when possible.

The economic plight of England is well known. But one writer in an English daily paper stated while I was in London, "Nevertheless, every British economist worth his salt is convinced that Britain will never get out of its present fix until the country learns to work harder for less return." Leslie Gould states, "The economic crisis, or whatever you want to call their problem of living within their means, is almost as far from a solution as it was at the war's end. Through socialism, probably more than through the ravages of war, Britain's capital account is 'short.'" The very rich have been taxed to a point of confiscation; the middle and lower income groups have reduced instead of expanded their savings.

Inflation has discouraged saving and, at the same time, capital has been diverted, up until the recent change in government, to a lot of social schemes which have reduced rather than increased Britain's productive power.

CLEVELAND J. WHITE, M.D.
Chicago

When organisms **resist** the other



antibiotics . . .

USE ERYTHROCIN*

. . . especially effective against gram-positive organisms including those resistant to penicillin and the other antibiotics.

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. . . has low toxicity; orally effective against infections caused by staphylococci, streptococci and pneumococci.

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. . . indicated in pharyngitis, tonsillitis, scarlet fever, pneumonia, erysipelas, osteomyelitis and pyoderma.

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. . . gastrointestinal disturbances mild and relatively rare; no serious side effects reported.

USE ERYTHROCIN*

. . . fully potent; average adult daily dose 0.8 to 2.0 Gm., depending on type, severity of infection.

USE ERYTHROCIN*

. . . special absorption-favoring coating; 0.1 Gm. (100 mg.) tablets supplied in bottles of 25 and 100. Abbott

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short REPORTS

Endocrinology

Genital Deformity

When a child has gross genital abnormalities, the exact nature of gonads should be determined as early as possible, before sexual adjustment is firmly established. Dr. Henry H. Turner and associates of the University of Oklahoma, Oklahoma City, cite a supposed boy in whom an ovotestis, uterus, and right tube and ovary eventually were detected. Large breasts developed, and many operations were needed for complete masculinization.

Atherosclerosis

Intermittent Cholesterolemia

Interruptions in the ingestion of high-cholesterol diets facilitate the unloading of accumulated lipid stores and permit the regression of early atheromatous formations in chickens. Continuous feeding of a diet supplemented with cholesterol results in elevated plasma levels with a high incidence of aortic and coronary atheromatosis. Intervals of normal diet feedings during the high-cholesterol regimen appear to protect the fowl against the lesions, report Dr. S. Rodbard and associates of the Michael Reese Hospital, Chicago. Chicks given either an oil-rich diet or no food during the intermittent periods display only a slight fall in plasma cholesterol and little or no alterations in the development of atheromas. Autopsy evidence suggests the reversibility of early atheromatosis, since the aorta will become clear of lesions after a five-day respite from the enriched cholesterol feedings.

J. Lab. & Clin. Med. 41:587-595, 1953.

Pharmacology

Therapy for Addicts

Withdrawal symptoms of drug addiction are alleviated and withdrawal can be achieved more rapidly when Tolserol, 3-o-toloxy 1,2 Propanediol, is used as an adjunct to methadone therapy. Methadone was administered in decreasing amounts as a substitute for morphine, heroin, or cocaine to 20 patients, 12 of whom were also given 1 gm. of Tolserol every three hours or in a varied dose to suit individual needs. Drs. John J. McLaughlin and Louis S. Schlan of the Manteno State Hospital, Manteno, Ill., find that the combined therapy more effectively controls muscle twitchings, cramps, and tremor. Patients appear more normal during withdrawal treatment, are less anxious, and have less insomnia than when treated with methadone alone. Tolserol is only of value when given before withdrawal symptoms are exhibited.

Illinois M. J. 103:247-249, 1953.

The Economy of Good Growth and Uncomplicated Development

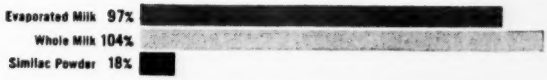
Why more physicians are prescribing Similac than ever before

1. *the preventive and therapeutic benefits of optimal infant nutrition*

To reduce complications in the first year of life, the full, balanced Similac formula provides fat, protein and carbohydrate closely approximating, in quality and quantity, the content of human breast milk; a full complement of vitamins in adequate amounts; an adjusted mineral content; a soft, fluid curd with zero tension, assuring rapid and easy digestion.

2. *price stability*

In the face of rising food costs, the price of Similac has remained relatively constant. Since 1936, evaporated milk has gone up by approximately 97 per cent, and whole milk approximately 104 per cent.* The price of Similac rose only 18 per cent in the same period.



Percentage Price Increase Since 1936

Since September, 1950, there has been no change whatever in the price of Similac as against increases of 19 per cent and 16 per cent for whole and evaporated milk. Today, Similac with its complete modification and added vitamins is no more expensive than whole-milk feeding, and in many areas actually affords greater economy.

**Milk prices cited from U. S. Bureau of Labor Statistics Bulletins.*

SIMILAC *powder*

There is no closer equivalent to the milk of healthy, well-nourished mothers

Supplied: Tins of 1 lb., with measuring cup.

M & R Laboratories, Columbus 16, Ohio

Gastroenterology

Pyloric Sounds

Sounds distinct from those of the heart or breath are produced by vibration of pyloric and duodenal mucosal folds and turbulence of chyme going through the sphincter. Frequencies above 500 per second were recorded during fluoroscopic examination after a barium meal by Dr. Hortense Louckes and associates of the University of Tennessee, Memphis. During an evacuation period of about seven seconds, sphincter contraction was heard for two seconds as 1 to 3 sharp clicks and a subsequent squirting effect. In a fasting animal allowed to smell food, loud sounds apparently resulted from passage of gastric juice and air.

Federation Proc. 12:91, 1953.

"Evidently, Bess, your diet isn't working. You're putting on weight under each eye."

Public Health

Tuberculosis Control in Puerto Rico

A steady decline of deaths from tuberculosis in Puerto Rico during the last fifteen years coincides with the initiation of modern methods of tuberculosis control. An intensive campaign against the disease, based on case finding, ambulatory collapse therapy for open cases, increased hospital facilities, and public health education, has been important in the decrease of deaths from the peak of 332.5 per 100,000 population in 1933 to 117.8 in 1951. In 1934, bed capacity for patients with open cases tripled, free chest roentgenograms and fluoroscopic examinations were initiated, laboratory facilities for sputum examinations were increased, and fully equipped pneumothorax clinics were opened throughout the island. A house-to-house health education program and general public health improvements such as milk stations for children, use of DDT, and better housing also facilitated the decrease in mortality, report Drs. J. Rodríguez Pastor and José L. Janer of the University of Puerto Rico, San Juan, and the Health Department of Puerto Rico. In 1947 streptomycin was first used, and in 1949 BCG vaccine administration was begun. Males register a slightly higher mortality than females. A tendency for the mortality peak to shift to older age groups is evident. Tuberculosis still accounts for approximately one-half of all deaths between the ages of 15 and 44 in Puerto Rico.

Am. Rev. Tuberc. 67:132-153, 1953.

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(even in heart cases)

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5-MINUTE ENEMA SOLUTION IN A DISPOSABLE PLASTIC CONTAINER

No longer is it necessary to prescribe certain mixtures for enemata to be given in particular cases; Clyserol may be safely given to all patients regardless of age, and has proved safe even in difficult heart cases through four years of clinical testing.

THIS MILD SOLUTION may be used both as a retention and a cleansing enema; it is non-toxic, cannot disturb digestion, is not absorbed, and does not interfere with acid base or fluid balance.

ADMINISTERED IN OUNCES instead of pints, it prevents the painful ballooning which causes patient dread of enemas . . . it may be adminstered in about five minutes instead of the 30 to 45 minutes ordinarily required for a high-fluid enema. (Knee-chest position is recommended; for disabled patients, may be administered with catheter.)

DISPOSIBLE PLASTIC CONTAINER is used for only one patient and then discarded. No cleaning up, no sterilizing, and Clyserol may be kept indefinitely without deterioration of solution or container.

Samples and literature on request.

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. . . wherever and whenever cleansing of the major bowel is required.

FIRST MAJOR ADVANCE IN ENEMA SOLUTION AND METHOD IN A HUNDRED YEARS . . . .

CONTENTS: Each 100 c.c. contains 1.25 grams Disodium Phosphate and 5.83 grams Monosodium Phosphate in distilled water

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Apparatus

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A small, automatic refrigerating unit inhibits pain of a hypodermic injection by cooling the skin to about 11° C. Dr. Harry L. Mueller of Children's Hospital, Boston, has employed the device for more than 7,000 injections. When the tip of the unit is pressed against a firm surface, a measured amount of freon gas from a cartridge seated by action of a metal screw cap flows into a chamber at the tip. On release of pressure, the gas escapes through a small opening and cools the tip to 5° C. in about five seconds. The unit is held against the skin for forty-five to sixty seconds, then the needle is inserted, with pressure on adjacent skin to counteract the sensation of needle pressure. A single cartridge supplies gas for about 22 procedures.

New England J. Med. 248:692-693, 1953.

Statistics

Tuberculosis Trend

Incidence of tuberculosis as well as mortality from the disease is decreasing. In a study of the percentage yield of new cases in the number of persons examined, Dr. Julius Katz of the New York State Department of Health, Albany, found a decrease of 22.9% in 1950-51 as compared with 1948-49. Although 21% more cases were recognized, 57% more people were examined in the community chest roentgenographic surveys and admissions to general hospitals of New York State, exclusive of New York City. Previous studies were based only upon the ratio between number of deaths and reported cases and indicated no change in the rate of development of tuberculosis in the past twenty years. The data suggest that the disease is yielding to public health control measures, and that reduction in incidence is an important cause of the decrease in death rates.

Am. Rev. Tuberc. 67:279-285, 1953.

Neurology

Temperature in Poliomyelitis

Injury to the anterior hypothalamus, normally active in temperature reduction, permits the development of hyperthermia, but the posterior area does not participate in regulation. In cases of bulbar poliomyelitis, Dr. Ian A. Brown and associates of the University of Minnesota, Minneapolis, observe that high fever is often out of proportion to severity of the illness. In 12 patients with prolonged high temperatures, the cell damage was greatest in the rostral portion, implicating the supraoptic, lateral, and especially the paraventricular nuclei. Damage to the medial nuclei was considered specific for hypothermia in 9 subjects, since the lateral nuclei were injured in patients showing both low and high temperature extremes. Dysfunction of the lateral nuclear units apparently causes poikilothermia. Excessive elevations in patients with the bulbar form of the disease must be avoided because of frequent hypothalamic involvement.

Arch. Neurol. & Psychiat. 91:332-342, 1953.

When
the patient
is in pain —

there is a new form of
synthetic narcotic anal-
gesic ... less likely to
produce constipation or
nausea than morphine ...
indicated for relief of
severe or intractable pain
-- LEVO-DROMORAN 'ROCHE.'

From
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literature—

"A striking characteristic is its ability to produce cheerfulness in pain-depressed patients the morning after an evening dose."*

LEVO-DROMORAN®'ROCHE'

*Glazebrook, A.J., Brit. M.J., 2:1328, Dec. 20, 1952

Drugs

Treatment for Hyperthyroidism

Methimazole is more satisfactory than thiouracil compounds in preparing hyperthyroid patients for surgery. Action is evident in three to five days and generally complete in three weeks. Toxic effects, including granulocytopenia and rash, occurred in only 2 to 3% of 150 subjects treated by Dr. Jacqueline Chevalley and associates of New York Medical College, New York City. Nearly half the cases were operative. Of the medical group, about one-third maintained remissions for more than twelve weeks after withdrawal of the drug. However, maintenance therapy tended to become ineffective or overactive without warning and was difficult to regulate.

Toxicology

Barbiturate Overdosage

Intentional or accidental suicide from barbiturates may be prevented if pentylenetetrazol is combined with the barbiturates. The central nervous system stimulant appears to interfere with the toxic effects of the hypnotic drugs, without altering the intended therapeutic effects. Described by Drs. Theodore Koppanyi of Georgetown University and Joseph F. Fazekas of the Gallinger Municipal Hospital, Washington D.C., the pills are combinations of 3 parts pentylenetetrazol with 1 part pentobarbital sodium, or 3 parts to 2 of phenobarbital sodium. Dog and rat studies demonstrate the nondeleterious effects of the stimulant alone and the lifesaving effects when administered with overdoses of barbiturates. Chronic administration of the drug combinations does not disturb sleep of human beings and has no untoward effects. Overdose of pentylenetetrazol results in subjective vertigo, nervousness, occasional olfactory hallucinations, and nausea.

M. Ann. District of Columbia 22:175-176, 1953.

Parasitology

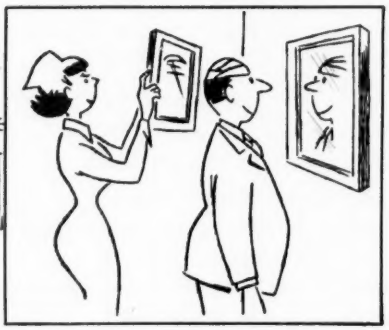
Detection of Protozoa

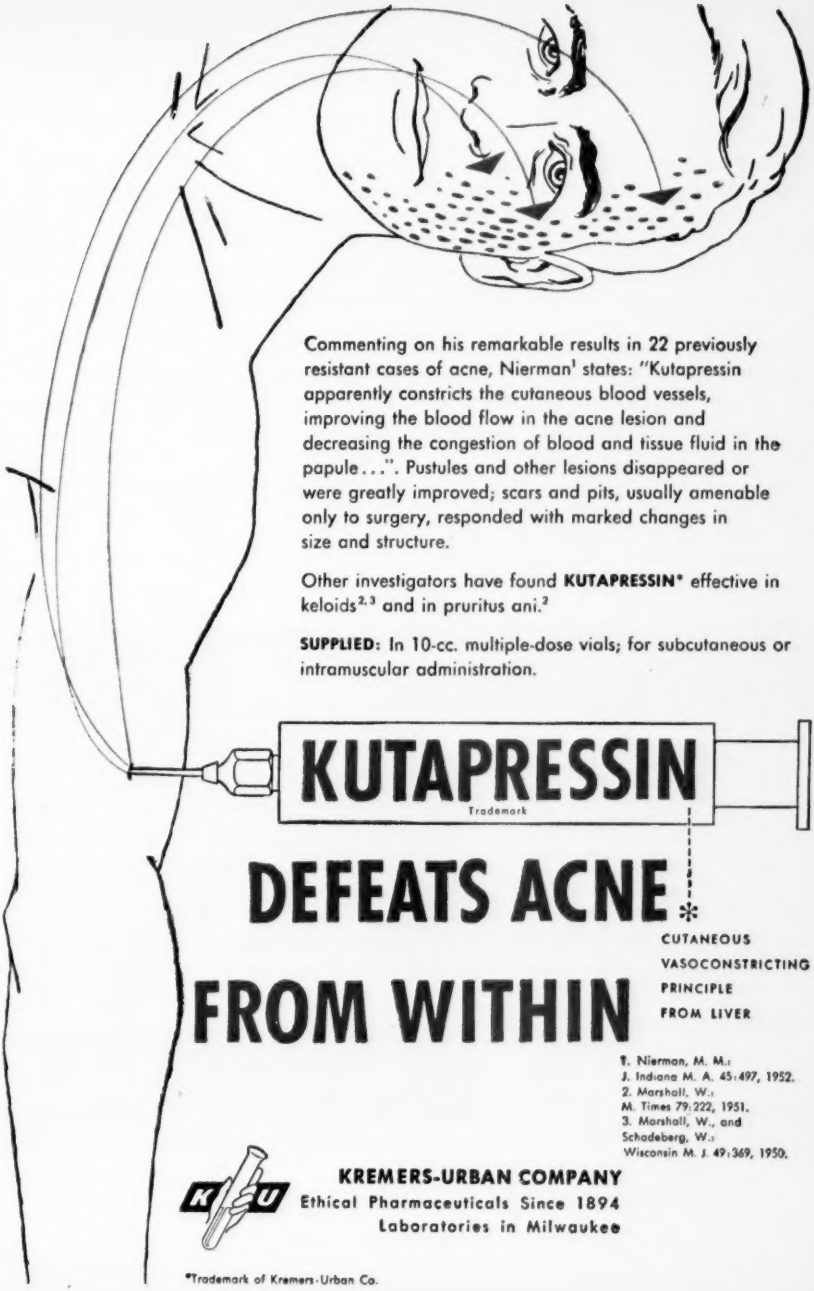
Use of tincture of Metaphen provides a rapid, wet-staining technic for the diagnosis of intestinal protozoa. The single alcohol-acetone solution demonstrates both trophozoites and cysts as highly refractile bodies, even under the low-power objective, report Drs. August J. Bucki and William H. Wells of the National Naval Medical Center, Bethesda, Md. A small particle of suspected fecal material is added to an undiluted drop of the stain on a microslide and stirred until a smooth emulsion is formed. Cellular details are readily diagnostic. The cytoplasm assumes a greenish-yellow color and the nuclear granules stain black in vivid contrast. Karyosomes are distinctly stained, facilitating the differentiation of *Endamoeba coli* and *E. histolytica*. The stain is equally successful in the demonstration of intestinal flagellates and the rhabditiform larvae of hookworm and *Strongyloides*.

Science 117:235, 1953.

Nellie Nifty, R.N.

by kaz





Commenting on his remarkable results in 22 previously resistant cases of acne, Nierman[1] states: "Kutapressin apparently constricts the cutaneous blood vessels, improving the blood flow in the acne lesion and decreasing the congestion of blood and tissue fluid in the papule . . .". Pustules and other lesions disappeared or were greatly improved; scars and pits, usually amenable only to surgery, responded with marked changes in size and structure.

Other investigators have found **KUTAPRESSIN*** effective in keloids[2,3] and in pruritus ani.[2]

SUPPLIED: In 10-cc. multiple-dose vials; for subcutaneous or intramuscular administration.

KUTAPRESSIN

Trademark

DEFEATS ACNE FROM WITHIN

CUTANEOUS VASOCONSTRICTING PRINCIPLE FROM LIVER

1. Nierman, M. M.: J. Indiana M. A. 45:497, 1952.
2. Marshall, W.: M. Times 79:222, 1951.
3. Marshall, W., and Schadeberg, W.: Wisconsin M. J. 49:369, 1950.

KREMERS-URBAN COMPANY
Ethical Pharmaceuticals Since 1894
Laboratories in Milwaukee

*Trademark of Kremers-Urban Co.

Hormones

Production of Arthritis

Pituitary growth hormone may be of direct etiologic importance in chronic arthritis and related conditions. Administration of gradually increasing daily doses of pituitary growth hormone to a number of adrenalectomized-ovariectomized rats for a six-month period resulted in induced experimental arthritis with sluggish physical condition, diminished muscular tone, increased irritability, tenderness of knee and ankle joints, and transient episodes of joint swelling, report Drs. William O. Reinhardt and Choh Hao Li of the University of California, Berkeley. Joint disturbances were observed radiographically in all growth hormone–treated, doubly-operated animals, in but 1 of a group of normal animals receiving growth hormone, and in none of a group of untreated doubly-operated animals. The disturbances occurred particularly at the knee and were characterized by irregularities and erosions of condylar margins, localized osteoporotic areas in the condyles, and evidence of lipping and calcification at joint margins. The ameliorative antiarthritic effects of ACTH, cortisone, and hydrocortisone may be due to either suppression of pituitary growth hormone secretion or antagonism to growth hormone at the tissue level, or to both.

Science 117:295-297, 1953.

Our Office Nurse

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Aug. 1 winner is

A. J. Josselson, M.D.
Alhambra, Calif.

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Readers to Honor Leaders in Medicine

MODERN MEDICINE AWARDS TO BE CONTINUED

AGAIN this year a Modern Medicine Award for Distinguished Achievement will be presented to persons who have contributed to the advance of medicine and the health of the nation.

In announcing continuation of the awards, Dr. Walter C. Alvarez, Editor-in-Chief of *Modern Medicine* urges all readers to participate in the selection (see page 66). Persons to receive awards will be chosen from the nominations sent in by readers. The award actually is an expression of confidence and commendation from the physicians of America to the recipient.

You are acquainted with several persons, some perhaps not widely known, who are making outstanding contributions to the art and science of medical practice. Here is your opportunity to help them win the recognition they most certainly deserve.

The frontiers of medicine are

Walter C. Alvarez, M.D., Editor-in-Chief
Modern Medicine
84 South 10th Street
Minneapolis 3, Minn.

I recommend_____M.D.

of_____for

Modern Medicine's Award for Distinguished Achievement

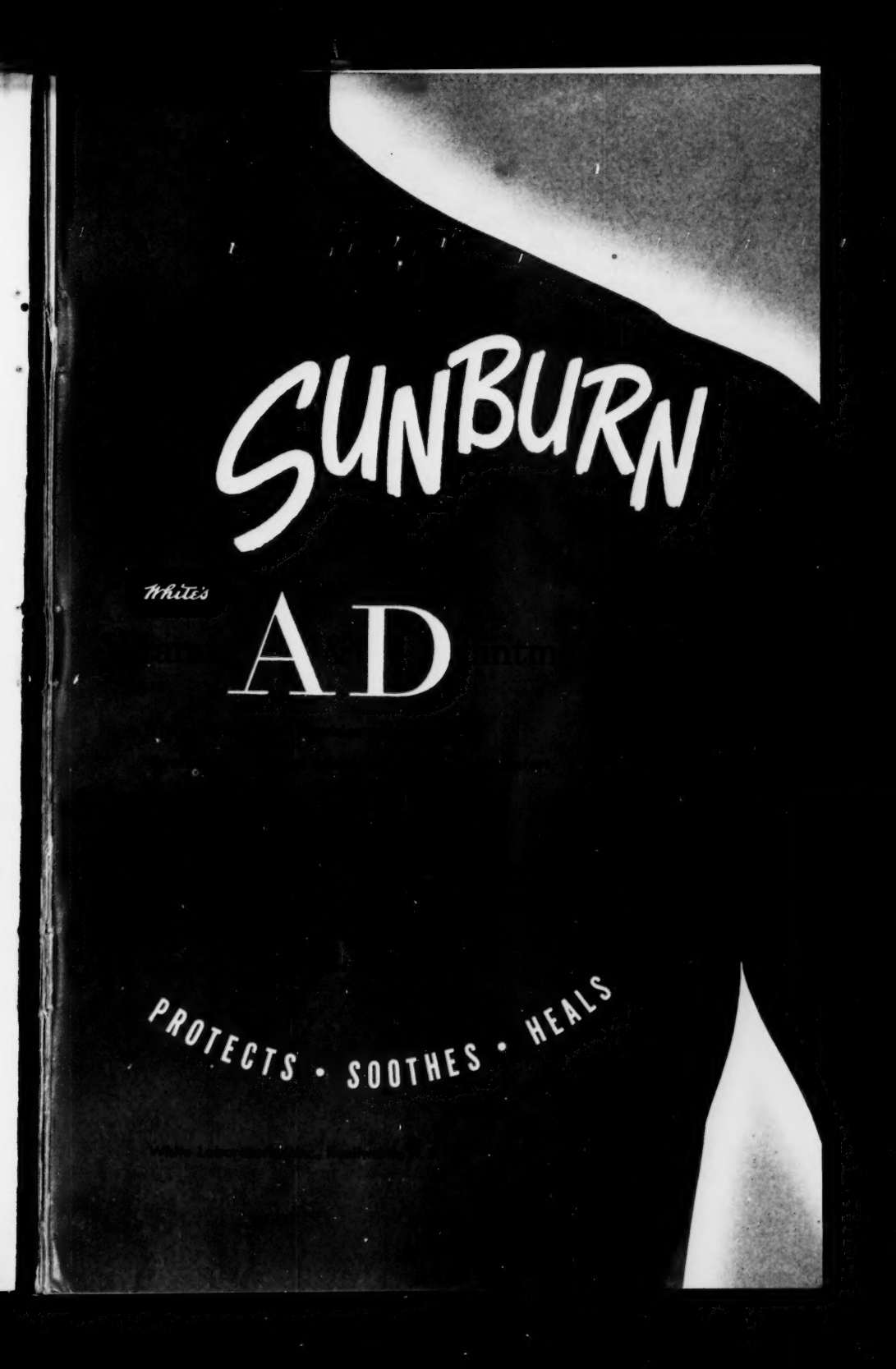
in recognition of_____

_____

_____

_____ _____

Nominator Nominator's Address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being expanded by the clinical and experimental investigations of dedicated workers in every part of the country and in every field of medicine. An award-worthy contribution may be a single advance within the past year or may be the cumulative result of labors over the years. General practitioners, specialists, teachers, and investigators are all eligible.

Nominations may be made by the coupon on page 150 or by letter. The Editors ask only that you send in your recommendations as early as possible. This year's honor roll will be announced in the January 1, 1954 issue of *Modern Medicine*.

The Honor Roll of 1953 included: Charles P. Bailey, M.D., George E. Burch, M.D., Daniel C. Darrow, M.D., John W. Gofman, M.D., Charles Huggins, M.D., Homer W. Smith, M.D., Wesley W. Spink, M.D., Helen B. Taussig, M.D., Shields Warren, M.D., and Alexander S. Wiener, M.D.

Honors are no novelty to such a distinguished group, but the Modern Medicine Award pleases the recipient because it comes only after nomination by the physicians of America. The presentation is, therefore, a concrete expression of widespread respect and admiration.

As Dr. Oliver Wendell Holmes wrote seventy-five years ago, "No popularity can be depended upon as permanent which is not sanctioned by the judgment of professional experts."

"You go to sleep, dear. I'm just getting dear old Mrs. Payne out of bed to tell her I'm so glad she got you out of bed for nothing!"

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bacteria, toxins

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inflamed intestines

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Dosage: **Acute Diarrhea:** *2 to 4 tablespoonfuls every hour or two for three or four doses; then 2 tablespoonfuls every three or four hours.*

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DEXTRO-AMPHETAMINE SULFATE	5 mg.	POTASSIUM	1.7 mg.
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COPPER	1 mg.	VITAMIN D	400 U.S.P. Units
IODINE	0.15 mg.	THIAMINE HYDROCHLORIDE	2 mg.
IRON	3.33 mg.	RIBOFLAVIN	2 mg.
MANGANESE	0.33 mg.	PYRIDOXINE HYDROCHLORIDE	0.5 mg.
MOLYBDENUM	0.2 mg.	NIACINAMIDE	20 mg.
MAGNESIUM	2 mg.	ASCORBIC ACID	37.5 mg.
PHOSPHORUS	187 mg.	CALCIUM PANTOTHENATE	3 mg.

BASIC SCIENCE *Briefs*

Cytology

Hypothalamic Cell Deficiency

Cushing's syndrome with bilateral adrenal hyperplasia does not seem to result from deficiency of hypothalamic cells. Dr. Thomas H. Maren of Johns Hopkins University, Baltimore, found that tissue obtained post mortem in 2 proved cases of the syndrome did not differ significantly from ordinary hypothalamic sections. Furthermore, dwarfed mice with practically no anterior pituitary substance had normal hypothalamic nuclei.

Experimental Medicine

Plasma Lipoprotein Changes

Acute injury may be associated with both atherosclerosis and an increase in serum levels of some lipoproteins. In rabbits subjected to local trauma in the form of acute cold injuries, Dr. Lawrence J. Milch and associates of the U. S. A. F. School of Aviation Medicine, Randolph Field, Tex., found elevated plasma levels of cholesterol and of the S_f 12-20 and S_f 20-100 classes of lipoproteins. These changes are also observed in atherosclerosis. The increased levels are not the result of hemoconcentration, since no significant effect of hypothermia alone on either packed cell volume or total plasma protein concentration is evident. Increased cholesterol synthesis in the regenerating tissue cells of the traumatized region may cause the elevation of the cholesterol-bearing lipoproteins. Phospholipid concentration also is higher after local injury from cold and may represent a homeostatic effort to lessen possible damaging effects of high-cholesterol levels on the arterial intima.

Am. J. M. Sc. 225:416-420, 1953.

Cardiovasology

Toxicity of Renin

Treatment with cortisone and sodium chloride sensitizes rats to renin toxicity, resulting in fluid retention, hemorrhage, and severe vascular and renal lesions. In animals given cortisone and salt for eighteen days, weight fell slightly and blood pressure mounted. After 3 injections of renin in twenty-four hours, hypertension became worse and weight rose sharply, report Dr. G. M. C. Masson and associates of the Cleveland Clinic Foundation. Autopsy after two more days of renin dosage revealed anasarca, bleeding of heart and intestine, necrotic myocardium and arterial media, renal tubules with hyaline casts, and glomeruli that contained hyaline droplets and capillary thrombi.

Federation Proc. 12:94, 1953.

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SHORT REPORTS FROM ABROAD

GERMANY

Phantom Pain and Trigeminal Neuralgia. Carefully conducted insulin treatment may be successful in cases of true trigeminal neuralgia and phantom pain. Substantial and prolonged improvement, often complete relief, may be obtained, remark Drs. H. J. Dammann and F. J. Tögemann of the Neurological Clinic, Hamburg-Heidberg, who believe this method should be used before resorting to surgery. The percentage of success is about the same as that achieved by surgical procedures.

The patient is placed in a quiet, darkened room. The first dose, given intramuscularly or subcutaneously, varies with the individual and generally ranges from 5 to 20 units of crystalline insulin. After approximately three hours, the hypoglycemic status is interrupted by administration of sugar or by a breakfast. The daily dose is gradually increased by 5 to 10 units and brought to 50 to 180, depending on the patient's reaction. No dose is increased over a preceding one that caused pronounced hypoglycemic reaction. No attempt should be made to enter the range of insulin shock.

The treatment is continued for several weeks, skipping each seventh day. Supplemental rest, physical and mental relaxation, and, if necessary, sedatives and physiotherapy are employed. The vast majority of 29 patients with true trigeminal neuralgia or phantom pain responded favorably to the insulin treatment; besides improvement of the specific symptoms, the patients experienced a sense of general well-being and gained appetite and weight.

FRANCE

Inoperable Cancer of the Esophagus. Introduction of a flexible silver tube to allow feeding is a good palliative procedure in cases of inoperable cancer of the esophagus with obstruction. Drs. Ombrédanne, Lortat-Jacob, and Triboulet-Piton of Paris report use of the method in 18 cases and review 120 cases described by others.

The tube is 10 cm. long and has a diameter of 1 cm. The oral end is slightly flared so that the tube can be retained over the tumor mass and kept from sliding into the stomach.

The tube is inserted through an esophagoscope. Usually general anesthesia is used for the insertion. Extreme caution should be exercised so as not to cause perforation or excessive trauma. The practicability of the procedure cannot be evaluated until esophagoscopic examination.

After the tube is inserted the patient is given a special diet from which large food particles are excluded.

Complications that should be watched for are the following: The tube may ascend into the hypopharynx. This is corrected by esophagoscopy. The tube may pass into the stomach, requiring gastrotomy. An obstruction from the overlapping tumor mass or food may need cleaning under esophagoscopic observation.

The insertion of the tube should not be done if the tumor has a tendency to bleed or invades the trachea or is located too high or too low.

2

Hibernation in Tetanus Therapy. A state of artificial hibernation with concomitant use of curare may reduce the reflex irritability as well as the strength of convulsions in patients with severe tetanus. Hibernation is induced by injection of the vegetolytic drugs, dolosal and Phenergan, and cooling of the patient by ice. The patient's temperature is lowered to about 36° C. Curare is administered by slow-drip rectoclysis.

Use of the procedure is described by Dr. G. Boudin and associates of Paris for a 52-year-old woman whose condition was rapidly worsening despite usual therapy for tetanus. With the hibernation and curare treatment, the patient's physical state was improved, fear and insomnia disappeared, deglutition was possible, convulsions became weak and rare, and the patient recovered.

Although the maintenance of a continuous state of hibernation over a period of several days is technically difficult, the good results seem to indicate use in such a grave disease as tetanus.

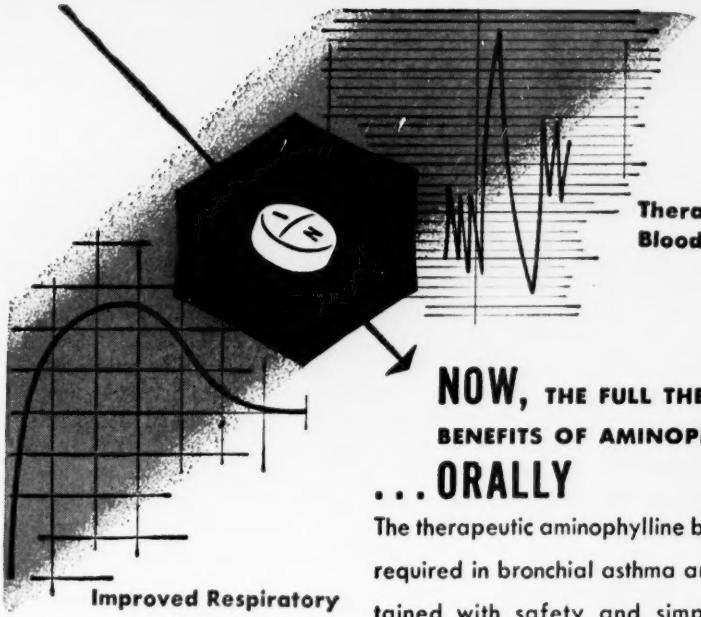
3

Isonicotinhydrazide for Tuberculous Meningitis. Isonicotinic acid hydrazide (INH) in combination with PAS or streptomycin, or both, is effective in treatment of children with tuberculous meningitis. Because of the increasing number of streptomycin-resistant strains, the relatively rare resistance to INH becomes of special importance.

INH is administered orally and intrathecally; intrathecal doses of 20 mg. are well tolerated. The drug diffuses rapidly through the entire cerebrospinal fluid, and the brain-blood barrier for INH is relatively low.

Dr. Robert Debré and associates of the Hospital for Sick Children, Paris, obtain the best results by administering INH, PAS, and streptomycin simultaneously. The following mode of treatment is used: [a] 0.5 to 1 gm. of streptomycin daily intramuscularly; 300 to 500 mg. of PAS orally daily with INH in daily doses of 5 to 15 mg. per kilogram of body weight; and [b] daily intraspinal injections of a mixture of 20 to 30 mg. of streptomycin, 10 to 20 mg. of INH, and 25 mg. of PAS.

The intraspinal injections are used for at least four months. Oral



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treatment is continued two months after the cerebrospinal fluid becomes normal. Over 4,000 intrathecal injections have been performed for 55 children without accidents or side effects.

4

Thevetin for Cardiac Insufficiency. Action of crystalline thevetin, a glucoside from *Thevetia neriifolia,* is similar to that of the digitalis drugs. The agent combines the advantages of digitalin and strophanthin, being orally administered and rapidly eliminated.

Dr. C. Lian of the University of Paris, after using thevetin for over two years, reports that the material is especially beneficial in mild cardiac conditions and in relieving the exertional dyspnea of mitral stenosis. The results in cases of advanced cardiac insufficiency resemble those obtained with digitalis or strophanthin.

Thevetin can be given intravenously for quick digitalization, the oral route being substituted for the intravenous as soon as adequate decongestion of the portal system is obtained.

The only untoward effect is occasional diarrhea. This disappears after dosage is decreased.

SWITZERLAND

Detection of Tuberculosis. In analysis of gastric juice for the presence of acid-fast bacilli, a falsely negative report for *Mycobacterium tuberculosis* is often obtained because of prolonged exposure of the bacilli to the ferments and the acid juice.

Drs. W. Roth and H. Birkhäuser of the University of Basel find that the addition of phosphate buffer to the sample greatly increases the true positive results even if examination is delayed for one or two days.

The buffer solution, 100 gr. of sodium phosphate in 400 cc. of water, is kept sterilized and is added to the gastric juice until a *p*H of about 7.2 is reached. Colorimetric verification is adequate. The addition of the buffer helps preserve the sample—important when the gastric juice cannot be analyzed immediately or has to be sent away for analysis.

BELGIAN CONGO

Modification of Streptomycin Resistance. Intramuscular injections of chaulmoogra oil or derivatives may modify the streptomycin resistance of the tubercle bacillus.

Dr. R. De Smet of the Belgian Congo reports that 8 of 10 streptomycin-resistant cases became sensitive again after a series of 25 daily injections of chaulmoogra oil, or derivatives, together with 3,000 I.U. of vitamin A.

The series of chaulmoogra injections were continued, with five-day rest periods between series, for five months, with no consecutive reappearance of the streptomycin resistance. The clinical and radiologic improvement with the continued streptomycin treatment was parallel to the decreasing resistance of the *Mycobacterium tuberculosis,* as evi-

denced by bacteriologic sensitivity tests.

The 2 failures to modify the streptomycin resistance occurred in terminal cases.

RUSSIA

Immunization against Sandfly Fever. In the lowering of morbidity, immunization against sandfly fever with living virus proves very effective.

Dr. S. A. Ananyan of the Institute of Medical Research of the U. S. S. R. Academy of Medical Science, Moscow, reports on 69,000 cases of vaccination during 1951. The virus vaccine used was modified by multiple passages through nonsusceptible laboratory animals, so that pathogenic power was lost but immunogenic qualities were maintained.

Fifteen to twenty-five days after vaccination, specific antibodies appear and can be easily detected in complement-fixation tests. Reactions to the introduced virus vaccine occurred in only 0.3% of the vaccinated persons and were inconsequential, consisting of prefrontal headache and pain in the eyes and joints.

The morbidity in the vaccinated was 3 times lower than among untreated individuals. When vaccination failed to give complete protection, the clinical course was not severe and the fever was decidedly lower.

Vaccination should be started about two months before the epidemic season. Revaccinations are given one month later, thus securing the highest possible protective antibody titer when the need is greatest.

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Psychiatry

PERSONAL AND SOCIAL ADJUSTMENT: FOUNDATIONS OF MENTAL HEALTH *by* Wayland Farries Vaughan. 578 pp., ill. Odyssey Press, New York City. $4.25

PSYCHIATRY IN GENERAL PRACTICE *by* Cuthbert A. H. Watts *and* B. M. Watts. 236 pp. J. & A. Churchill, London. 12*s.* 6*d.*

SOCIETY AND THE HOMOSEXUAL *by* Gordon Westwood. 191 pp. Victor Gollancz, London. 9*s.* 6*d.*

THE CONQUEST OF FEAR *by* Harley Williams. 240 pp., ill. Jonathan Cope, London. 16*s.*

Pharmacology & Therapeutics

THE 1952 YEAR BOOK OF DRUG THERAPY *edited by* Harry Beckman. 606 pp., ill. Year Book Publishers, Chicago. $5.50

Toxicology

HANDBOOK OF DANGEROUS MATERIALS *by* Newton Irving Sax. 848 pp. Reinhold Publishing Co., New York City. $15

LE TÉTANOS EXPERIMENTAL PAR LA TOXINE TÉTANIQUE *by* Mario Pelloja. 300 pp., ill. Masson & Co., Paris. 1,000 fr.

Neuroanatomy

THE ANATOMY OF THE NERVOUS SYSTEM *by* Stephen W. Ranson *and* Sam L. Clark. 9th ed. 581 pp., ill. W. B. Saunders Co., Philadelphia. $8.50

THE PRINCIPAL NERVOUS PATHWAYS: NEUROLOGICAL CHARTS AND SCHEMAS *by* Andrew T. Rasmussen. 4th ed. 73 pp., ill. Macmillan Co., New York City. $4.50

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Physical Medicine

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ESSENTIALS OF BODY MECHANICS IN HEALTH AND DISEASE *by* Joel Ernest Goldthwait *et al.* 5th ed. 356 pp., ill. J. B. Lippincott Co., Philadelphia. $6

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Waiting in the doctor's reception room can be quite a trial to some folks—laymen often associate pain with the odors of medication and antiseptics. And this can result in nervousness and tension.

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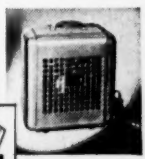

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Physiology

METABOLISM AND FUNCTION IN NERVOUS TISSUE: A SYMPOSIUM HELD AT THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE NOVEMBER 10, 1951 *edited by* R. T. Williams. 102 pp., ill. Cambridge University Press, London. 12*s.* 6*d.*; New York City. $2.75

APPLIED PHYSIOLOGY *by* Samson Wright *et al.* 9th ed. 1,190 pp., ill. Oxford University Press, New York City. $9

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"Goodness knows," I replied. "Goodness knows."—B.P.S.

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Recently I heard two small boys in the children's ward of a hospital discussing their respective ailments.

"Are you medical or surgical?" asked one.

"What do you mean—medical or surgical?" countered the other.

"What I mean is, were you sick when you got here or did they make you sick after you got here?"—K.B.

"Doctor, what's the first thing you look for in a girl?"

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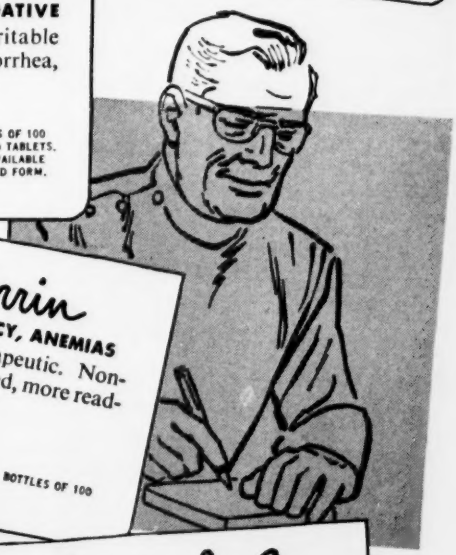

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"What color?" inquired the patient.—S.M.

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The filling station attendant, who was one of my patients, looked at the flat tire on my car and said, "I diagnose the trouble as puncture wounds resulting in prolapsus of the perimeter. Plastic surgery followed by the administration of violent flatulence is the prescribed cure. You will be charged accordingly."—J.L.M.

"I understand that that Copenhagen doctor is being indicted by the American government for tampering with the U.S. male."—D.K.

Stocks and Blood

A wealthy businessman of our community came often to my office to complain of high blood pressure. Therefore, I was greatly surprised when I saw him performing manual labor with a construction gang. "What happened to your high blood pressure?" I asked.

He wiped the sweat from his brow and replied calmly, "I lost all my money playing the market and had to give it up."—J.M.F.

"Oh, get up dear. One of them is just a doll for the baby."

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